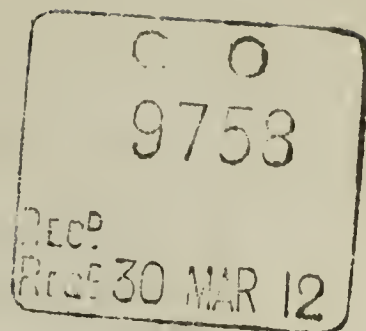


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STRAITS SETTLEMENTS.

The Straits Settlements Medical Report for the Year 1910.

1. *Population and Health.*—The following table shows the estimated population and the birth and death-rates for the years 1909 and 1910:—

SETTLEMENT.	Estimated mean Population.		Births.		Deaths.		Birth Ratio per mille.		Death Ratio per mille.	
	1909.	1910.	1909.	1910.	1909.	1910.	1909.	1910.	1909.	1910.
Singapore ...	277,658	284,449	6,196	6,445	10,779	12,511	22'31	22'66	38'82	46'95
Labuan ...	8,231	8,199	183	235	97	267	22'23	28'66	23'93	25'83
Penang ...	133,697	134,343	2,706	3,025	5,006	5,119	20'24	22'52	37'44	43'12
Province Wellesley	122,216	123,289	3,880	3,640	3,627	4,185	31'74	29'52	31'28	29'87
Dindings ...	4,594	4,657	169	212	232	214	36'79	45'52	50'50	55'58
Malacca ...	98,526	98,916	4,043	4,455	4,085	5,188	41'03	45'04	41'46	47'88
Total ...	644,922	653,853	17,177	18,012	23,925	27,484	26'63	27'55	37'40	42'83

2. The mean estimated population which for 1901 calculated from the Census returns was 572,249, is estimated at 653,853 for 1910. The figures are based entirely on the increase between the Census figures of 1891 and 1901, the natural means of estimating on the number of births and deaths and immigration and emigration not being practicable on account of records for the latter not being reliable.

3. The birth-rate for 1910 was 27'55 per mille of population, a slight increase on the rate for 1909 which was 26'69 per mille. The average for the last ten years was 26'51 per mille.

4. The death-rate for 1910 was 41'88 per mille as compared with 37'58 for 1909. The average for the last ten years was 40'16. In Singapore, the monthly number of deaths registered which stood at 863 in January rose to 1,361 in July and fell to 959 in December, 1,258 and 1,168 being the figures for August and September. The figures for July, August and September, 1909, were 870, 880 and 954 respectively. In Malacca, the monthly number of deaths registered shows a steady rise from 267 in January to 643 in December. In the other Settlements the variations were not so marked.

5. Of the number of deaths registered in 1910, 5,077 were among infants under one year of age, which represents a percentage of 18'47 of the total as against 19'7 in 1909. The deaths amongst infants for 1909 and 1908 were 4,714 and 5,110 respectively. The ratio per mille for 1910, after excluding the births of children born elsewhere than in the Colony, was 268'93, against 263'67 in the previous year. Of the 5,078 deaths registered of infants 3,714 were returned as due to convulsions.

6. A nurse to help to instruct native mothers in the proper care of their infants with the hope of reducing the large infantile mortality was appointed during the year in Singapore and is under Municipal control. During the year a scheme was formulated and passed for the training of native midwives, the Government paying for cost of tuition and the Municipality the uniform and subsistence moneys of the pupils. The scheme provides for the training of four pupils at a time and of these two passed out by the end of the year.

7. The following table gives the number of cases of zymotic diseases in the Colony during 1909 and 1910 and deaths therefrom, not including the imported cases:—

SETTLEMENT.	PLAGUE.				CHOLERA.				SMALL-POX.			
	1909.		1910.		1909.		1910.		1909.		1910.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Singapore ...	5	5	5	5	84	76	157	148	41	8	414	152
Penang ...	...	...	...	...	...	...	1	1	...	...	894	239
Province Wellesley...	...	...	...	...	...	...	131	98	21	3	330	69
Malacca ...	...	...	...	...	...	...	...	...	...	...	241	62
Total ...	5	5	5	5	84	76	289	247	62	11	1,879	522

8. *Plague*.—Of the five cases reported all occurred within Municipal limits in Singapore, and all were Chinese males, two being discovered after death, all ended fatally.

9. *Cholera*.—Of the 157 cases of cholera in Singapore 132 occurred within Municipal limits with 125 deaths. The disease was most prevalent from May to August. But one fatal case occurred in Penang while the disease took an epidemic form from July to October in Province Wellesley, South, with 131 cases and 98 deaths. The disease began with the Tamil coolies in one estate and gradually spread to other estates. A full report will be found in Appendix *M* attached.

10. *Small-pox*.—There were small-pox outbreaks in all the Settlements during the year totalling in all 1,879 cases and 522 deaths, as compared with 41 cases and 8 deaths in the previous year. Within Municipal limits there were 415 cases in Singapore and 789 in Penang.

11. *Diphtheria*.—Eight cases were treated in the Hospitals of the Colony of which three ended fatally, of these seven cases occurred in Singapore.

12. *Enteric Fever*.—In Singapore 84 cases were notified to the Health Department, against 235 in the previous year. In the three Settlements 76 deaths were registered under this head. In the Hospitals of the Colony 113 cases were treated of which 47 ended fatally.

13. *Beri-beri*.—One thousand seven hundred and thirty-seven deaths occurred from Beri-beri, compared with 1,506 in 1909. The following table gives the figures for the last 5 years:—

Deaths from Beri-beri.

Settlement.	1906.	1907.	1908.	1909.	1910.
Singapore ...	998	1,213	1,117	873	1,071
Penang ...	282	212	534	399	367
Province Wellesley ...	6	9	20	11	6
Dindings ...	3	5	2	4	7
Malacca ...	218	187	227	219	267
Labuan ...	...	...	...	...	19
Total ...	1,507	1,626	1,900	1,506	1,737

14. The following are the figures of Beri-beri cases treated in the various hospitals for the last five years :—

Year.		Total Cases.	Deaths.	Percentage of Deaths.
—	—	—	—	—
1906	...	1,971	296	15·01
1907	...	1,806	243	13·45
1908	...	2,777	284	10·23
1909	...	2,118	224	10·57
1910	...	2,044	290	14·18

The results from the use of parboiled rice continue to be satisfactory, the native patients at the several hospitals are exclusively fed on it.

15. The returns from the Pasir Panjang Beri-beri Hospital show 437 cases treated with 5 deaths, 4 of the deaths occurred within three weeks of admission.

16. *Venereal Diseases*.—The admissions to all hospitals in 1910 were 2,299 with 42 deaths as compared with 2,603 with 49 deaths in the preceding year. Of the admissions in 1910, 201 were prostitutes.

17. *Phthisis*.—Deaths registered from this cause numbered 2,571, against 2,659 in 1909 and 2,988 in 1908.

18. *Dysentery and Diarrhœa*.—There were 2,011 deaths from these causes as against 1,756 deaths in 1909. The cases treated in the hospitals numbered 2,371 with 848 deaths. The patients come in for treatment in the last stages of these diseases and help to swell the death-rate from these causes to a very large extent.

19. *Malaria*.—The death-rate from this disease continued very high. There were in all 3,300 deaths in the whole of the Colony as compared with 2,589 and 3,062 in 1909 and 1908 respectively. The work of draining and filling up swampy land, extending drains, and cleaning ditches, etc., has been continued.

The chief cause of the great prevalence of this disease is the opening up and clearing of new estates in all parts of the Peninsula.

20. *Sanitation*.—Good progress was made during the year with the “back-lane scheme,” that for Kampong Kapur referred to in the report for 1909 being nearly completed by the end of the year. It is under the control of the Municipality. Schemes for other parts of the town were also approved. A refuse incinerator was constructed in Alexandra Road and has proved very satisfactory. Scheme of underground sewers as also the building of the new quarantine hospital were under consideration during the year. The waterworks extensions were completed and taken over.

21. *Ankylostomiasis*.—There were in all 280 cases admitted to the hospitals during the year of which 84 ended fatally. The largest number was returned from Province Wellesley. 96 admissions.

22. Hospitals and work done :—

Year.	Number of Patients Treated.			Number of Deaths.			Percentage of Deaths to Total Treated.		
	Europeans.	Natives.	Total.	Europeans.	Natives.	Total.	Europeans.	Natives.	Total.
(a) 1908 ...	1,287	29,083	30,370	83	3,948	4,031	6·45	13·57	13·24
(b) 1909 ...	1,398	28,868	30,266	70	3,565	3,635	5·01	12·35	12·01
(c) 1910 ...	1,463	34,221	35,684	64	4,465	4,529	4·37	13·05	12·69

Includes Lunatic Asylum :—

(a)	508 cases and 65 deaths.
(b)	556 cases and 78 deaths.
(c)	579 cases and 115 deaths.

23. The diseases responsible for the greatest number of admissions and deaths in the hospitals are shown in the subjoined table with the corresponding diseases and deaths in 1909:—

Disease.	1909.		1910.	
	Total treated.	Deaths.	Total treated.	Deaths.
Malarial Fever	5,183	331	7,312	687
Dysentery	1,743	670	1,643	689
Diarrhœa	714	126	824	159
Beri-beri	2,118	224	2,044	290
Tuberculosis (Phthisis) ...	1,080	541	1,103	554
Anæmia	626	117	675	86
Pneumonia	337	152	348	169
Enteric Fever	316	79	113	47
Pyrexia	671	3	486	4
Bronchitis	410	19	491	19
Ulcers	2,807	19	2,667	8
Venereal Diseases	2,603	49	2,299	42

24. *Lunatic Asylum*.—The total number treated was 579 (466 males and 113 females), against 556 in the previous year. The recovery rate was 40·79 on the admissions, against 42·27 in 1909. The death-rate was 32·03 on the average daily number resident. Three hundred and thirty-three patients remained at the end of the year. An outbreak of cholera occurred in July necessitating the removal of some of the patients to St. John's Island. There were in all 48 cases with 38 deaths.

25. *Beri-beri Hospital, Pasir Panjang*.—One hundred and nineteen patients remained over from 1909 and 318 were admitted during the year making a total of 437 treated, an increase of 54 over the previous year. There were 5 deaths from beri-beri and 23 from other causes. One case of small-pox occurred during the year in the Hospital.

26. *Police Force*.—In Singapore 5,796 out-patients were attended to as compared with 3,924 in 1909. Three hundred and five were ordered to hospital as against 388 in 1909; the majority of the cases sent being for malaria. Two hundred and fifteen candidates were passed as physically fit to enter the force during the year.

27. *Estates*.—In the eight Estate Hospitals in Province Wellesley, 8,577 patients were treated with 325 deaths as against 5,302 with 135 deaths in the preceding year. The chief causes of admission were malaria and bowel disorders but the diagnosis are generally performed by dressers and therefore unreliable to a large extent. In Malacca there were seven Estates, with three hospitals in all. There were amongst the coolies 139 deaths, 53 being due to malaria.

28. *Out-door Dispensaries*.—Twenty-nine thousand seven hundred and sixty-four patients were treated at the different dispensaries, against 27,134 in 1909. The new Out-door Dispensary in South Canal Road was nearly completed by the end of the year.

29. *Vaccination*.—The total number of vaccinations performed throughout the Colony was 20,990, against 12,854 in 1909. The following gives the number

vaccinated (exclusive of those performed in the Prisons and Quarantine Stations) with the result in the different Settlements during 1910:—

SETTLEMENT.	Number of Vaccina- tions performed.	RESULT.			
		Perfect.	Modified.	Failed.	Not seen.
Singapore ...	* 5,146	5,046	...	10	90
Penang ...	2,725	2,270	207	142	106
Province Wellesley	7,121	5,660	341	478	642
Malacca ...	5,763	4,757	331	637	38
Labuan ...	235	223	...	12	...
Total ...	20,990	17,956	879	1,279	876

Four private vaccinators were licensed to practise in Singapore.

30. *Quarantine.*—The number of passengers and crew examined on arrival in Singapore were 364,720 and 103,148, respectively, against 214,321 and 77,304, respectively, in 1909.

In Penang.—One hundred and sixty-eight thousand two hundred and sixteen passengers and 49,751 crew were examined on arrival. The number of passengers detained for observation or treatment was the largest for the last ten years. The new Quarantine Station, Pulau Jerejak, was nearly completed by the end of the year.

The largest number on the Quarantine Island on any one day was 5,518 and 5,574 in Singapore and Penang respectively.

31. *Government Analyst's Department.*—The revenue collected in Singapore amounted to \$13,015 as compared with \$11,525 in 1909. The Department was short-handed for a portion of the year and a certain amount of work had to be refused. In Penang \$4,037 were collected as against \$2,190 in 1909.

32. *Medical School.*—Eighteen new students joined during the year for the full course of five years, of whom two were females, making in all 72 students in training for the L. M. S. Diploma. The year was an important one in the history of the school as it was marked by the completion of the first full course of study. At the close of the short session (May, 1910) seven students received their diplomas at a prize distribution at which Sir JOHN ANDERSON was present and at the end of the long session (December, 1911) at which Dr. GILMORE ELLIS presided six more graduated. A much-needed extension to the school was enabled to be begun by means of a sum of \$10,000 given by Mr. TAN CHAY YAN of Malacca and was nearing completion at the end of the year. It provides for a Museum, Lecture Room, Library and Reading-room with Office, Store, etc.

It is hoped to increase the permanent teaching staff of the school in the near future.

33. *Pathological Department.*—One thousand seven hundred and forty-three autopsies were performed during the year as compared with 1,612 in 1909. No special research work was undertaken during the year.

34. *Medical Department, Labuan.*—The death-rate and birth-rate were 32.56 and 28.66, respectively, as against 23.93 and 22.23 in 1909. The principal causes of deaths were Tuberculosis 28, Beri-beri 18, Diarrhœa 14, Fever 64. There were no epidemic diseases during the year. Four hundred and forty-six patients were treated as out-patients, excluding Police and prisoners.

Three hundred and thirty-eight patients were treated in the Government Hospital as against 307 in 1909 of whom six were Europeans.

A new Prison ward was built and attached to the hospital sufficient to contain eight beds.

* Includes 97 vaccinations done by private medical men.

35. *Miscellaneous.*—The new Deleterious Drugs Ordinance came into force in October. Twenty-four licences were issued under it to the Chemists and eight to Dentists by the end of the year. Sixty-one licences, wholesale or retail, were issued under the Poisons Ordinance. Seven hundred and thirty bills were prepared and sent out for collection in connection with quarantine and disinfection of ships which brought in a revenue of \$14,874.80. Two hundred and ten Medical Practitioners were on the Register on the 31st December, of these 124 are in the service of the Straits and Federated Malay States Governments, the others being in private practice.

The Hospital Board Ordinance was passed in April investing the management of the Hospitals and Asylums of the Colony in a Board with the Principal Civil Medical Officer as Chairman.

The Leprosy Law was amended during the year. The law now gives more power to the Police to arrest without warrant any leper not segregated. It further empowers a Health Officer to enter any dwelling-house and remove any leper found unsegregated. The erection of a separate ward for the incurably blind at the Tan Tock Seng's Hospital was sanctioned for which \$12,000 was a donation from Mr. ONG KIM WEE of Malacca.

The Kwong-Wai-Shiu Free Hospital Ordinance was passed on 31st May. The hospital occupies part of the site of the old Tan Tock Seng's Hospital. The inmates have the option of receiving Chinese or Western methods of treatment.

36. *Staff.*—Dr. J. LEASK proceeded on leave on 24th March, 1910. Dr. CROUCHER from Penang took over charge as Acting Senior Medical Officer in charge, General Hospital.

Dr. DANE proceeded to Penang on 18th March, to act as Senior Medical Officer *vice* Dr. CROUCHER, and Dr. ROBINSON took over charge as Acting Senior Medical Officer in charge of Officials and Jail until 26th December, when he was transferred to the Federated Malay States and Dr. H. W. FURNIVALL took over charge. Drs. H. W. FURNIVALL, J. S. WEBSTER and E. D. WHITTLE were promoted to grade £360-480 on 7th April, 7th April, and 31st May respectively. Dr. GRAY was transferred to the Federated Malay States on 9th April and was succeeded by Dr. WEBSTER as Medical Officer, Tan Tock Seng's Hospital. Dr. WEBSTER was promoted to Medical Officer in charge, General Hospital, Penang, (Surgical) on 9th July and was succeeded by Dr. E. D. WHITTLE as Medical Officer in charge, Tan Tock Seng's Hospital.

Dr. E. G. WEIR, Medical Officer, Malacca, resigned the service and was succeeded by Dr. A. KEUN from Penang on the 11th March. Dr. J. BRUCE LOW was transferred to the Federated Malay States on 26th December.

The following Medical Officers acted in the appointment of Medical Officer, Port Health Department (Assistant to the Port Health Officer):—

Dr. C. ROBINSON, from 1st January to 18th March.

Dr. J. WEBSTER, from 19th March to 1st April.

Dr. E. D. WHITTLE, from 15th April to 8th July.

Dr. J. BRUCE LOW, from 9th July to 1st October.

Dr. J. SUGARS, from 2nd October, to 17th October.

Dr. J. BRUCE LOW, from 18th October to 26th December.

The following new Medical Officers arrived during the year:—

Dr. J. F. O'BRIEN, arrived 22nd April.

Dr. R. BRUCE LOW, arrived 13th April.

Dr. H. S. SUGARS, arrived 30th September.

Dr. H. M. C. GREEN, arrived 21st October.

In the other Departments—

Dr. FINLAYSON, Government Pathologist, proceeded on leave, the latter part of the year and Dr. KEITH and Dr. LIVESEY acted for him. Dr. F. DENT, Government Analyst, proceeded on leave on 1st September, Mr. J. C. COWAP from Penang acted for him. Mr. J. W. HADDON took over charge of the Deputy Government Analyst's Office at Penang on the transfer of Mr. COWAP to Singapore on 24th August.

39. I append the following reports :—

- (a) Singapore Hospitals.
- (b) Penang Hospitals.
- (c) Province Wellesley Hospitals.
- (d) Malacca Hospitals.
- (e) Hospitals for Women.
- (f) Out-door Dispensaries.
- (g) Vaccination.
- (h) Quarantine.
- (i) Government Analyst's Department.
- (j) Medical School.
- (k) Pathological Department.
- (l) Labuan Medical Department.
- (m) Special report on cholera outbreak in Province Wellesley, 1910, and the following returns for Singapore, Penang, Province Wellesley, Malacca and Labuan are also attached :—
 - (1) Statistics of Population.
 - (2) Meteorological Returns.
 - (3) Nosological Returns.

F. CROUCHER,
Acting Principal Civil Medical Officer, S. S.

SINGAPORE, 23rd October, 1911.

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APPENDIX A.

SINGAPORE.

General Hospital.

REPORT BY DR. F. B. CROUCHER, *Senior Medical Officer-in-charge.*

1. *Buildings.*—All the buildings were limewashed.
2. A new stone staircase was added to the female ward.
3. A geyser for the Nurses' quarters was supplied.
4. *Grounds.*—The low-lying land at the back of the General Hospital was drained by convalescent patients from the Lunatic Asylum, under the superintendence of the Public Works Department.
5. *Gas.*—Gas service was extended to the Officers' ward downstairs.
6. The removal of the night-soil was regularly performed.
7. The removal of rubbish was regular also.
8. *Work done.*—The private European male wards were well filled during the year. On several occasions patients had to wait in the general wards until there was a vacant bed in the private wards. The daily average was 11·99 patients for 16 beds as against 10·23 in 1909.
9. The European male general wards were well filled during most of the year, the greatest number being in February, May, June and September.
10. The daily average was 20·26 patients for 35 beds, against 19 for 1909.
11. The European female general wards had a daily average of 2·25 patients for 8 beds as against 1·82 for 1909.
12. The European female general wards had a daily average of 3·88 patients for 9 beds, against 4·73 for 1909.
13. The Maternity wards had a daily average of 3·90 European patients for 13 beds and 2·32 natives for 16 beds as against 3·15 and 2·32 for 1909.
14. The average number of patients in the Native female wards was 11·87 patients for 18 beds as against 14·18 for 1909.
15. The Native male wards were also frequently full during the year.
16. The daily average was 121·58 patients for 204 beds.
17. There were 4,526 admissions to the whole hospital (562 of whom were females), against 3,975 (of whom 534 were females) in 1909.
18. The total treated during 1910 was 4,650, against 4,104 in 1909: and the average daily sick was 178·05, against 178·10 in 1909.
19. There were 401 deaths (47 of these in females), against 289 in 1909.
20. The percentage of deaths to total treated was 8·62, against 7·04 in 1909 and 8·6 in 1908.

	Remaining 1909.	Admitted.	Total treated.	Discharged.	Transferred.	Absconded.	Died.	Remaining 1910.	Percentage of Deaths to total treated.
Europeans ...	39	793	832	753	5	1	33	40	3·97
Natives ...	63	3,085	3,148	2,536	54	87	368	103	11·69
Native Police ...	22	648	670	621	1	37	...	11	...
Total ...	124	4,526	4,650	3,910	60	125	401	154	8·62

21. *European Wards*.—There were 793 admissions to the European wards (209 of whom were females) including European Police and maternity patients, against 770 in 1909.

22. The principal causes of admission were:—Malaria 211, Venereal Diseases 30, Injuries 48, Dysentery 23, Enteric Fever 9, Alcoholism 7, Tuberculosis 1, Appendicitis 8, Dengue and Myalgia each 11, Malignant Tumours 13.

23. Others of interest were Diphtheria 5, Pneumonia 7, and Beri-beri 2.

24. The deaths in the European wards were 33 in number (8 being females) as against 33 in 1909, the percentage of deaths to total treated being 3·97, against 4·16 in 1909.

25. The principal causes of deaths were:—Malaria 5, Enteric Fever 1, Dysentery 5, Malignant Tumour 1, Intestinal Obstruction 1, and Tuberculosis 10.

26. Other causes of death of interest were:—Diphtheria 1, Venereal Diseases (Secondary Syphilis) 1, Pneumonia 3, Abscess of Liver 1.

27. There were 5 deaths from malaria in these wards.

28. *Native Wards*.—There were 3,085 (353 of whom were females) admissions to the native wards, including 114 admissions to the native maternity wards.

29. The chief causes of admission were:—Injuries 831, Malaria 1,003, Venereal Diseases 169, Dysentery 100, Tuberculosis 12, Enteric Fever 42, Beri-beri 89, Pneumonia 44, Bronchitis 39, Abscess 37, Boils 2.

30. *Zymotic Diseases*.—Dengue 12.

31. *Operations*.—Five hundred and three operations were performed during the year.

32. *Deaths*.—The number of native deaths was 368 (of whom 38 were among females and 1 among native maternity patients), against 256 in 1909; giving a percentage to total treated of 11·69, against 9·2 in 1909.

33. The chief causes of death were:—Malaria 118, Tuberculosis 2, Dysentery 24, Injuries 29, Beri-beri 35, Pneumonia 29, Enteric Fever 14.

34. *Native Police*.—There were 648 admitted as against 529 in 1909.

35. The chief causes of admission were:—Malaria 222, Venereal Diseases 61, Bronchitis 38, Injuries 39, Dysentery 19, Boils 9, Tuberculosis 4, Conjunctivitis 19.

36. "No disease" was diagnosed in 22 cases and 13 were returned as malingering.

37. There were no deaths among the native police.

38. *Maternity Wards*.—The total admissions were 199, against 173 in 1909, and they consisted of 86 admissions to the European wards and 113 to the Native wards.

39. Of those admitted there were 159 deliveries and 1 abortion, and 39 were not delivered being either cases of re-admission or those who left before delivery and did not return.

40. The nationalities of those delivered were as follows:—

Europeans	...	...	...	58	against	63	in	1909.
Eurasians	...	...	...	6	"	7	"	"
Chinese	...	...	...	42	"	40	"	"
Tamils	...	...	...	28	"	29	"	"
Sikhs	...	...	...	10	"	15	"	"
Hebrews	...	...	...	6	"	4	"	"
Japanese	...	...	...	7	"	15	"	"
Others	...	...	...	3	"	0	"	"

The remaining 39 patients not delivered were as follows:—

Europeans	...	...	...	...	7
Eurasians	...	...	...	...	4
Tamils	...	...	...	...	14
Chinese	...	...	...	...	7
Sikhs	...	...	...	...	4
Japanese	...	...	...	...	3

41. Nature of the cases :—

Uncomplicated	...	...	...	...	129
Transverse position	...	...	...	...	1
Occipito-posterior position	...	...	...	...	4
Breech	...	...	...	...	7
Face	...	...	...	...	1
Tedious	...	...	...	...	10
Abortion	...	...	...	...	1
Post Partum hæmorrhage	...	...	...	...	4
Anti Partum	„	...	...	...	1
Adherent Placenta	...	...	...	...	2
					<hr/> 160 <hr/>

42. *Children*.—Sex—Male 83, female 76, of whom 6 males and 3 females were still-born. Nationality—Europeans 57, natives 102.

Average Weights of the Children.

Europeans	...	...	...	...	7 lbs. 6½ oz.
Natives	...	...	...	...	6 „ 6½ „

43. *Mothers*.—Three of these died, 2 from sepsis and 1 from rupture of uterus. The two former were septic on admission.

44. *Operations*.—In the labour wards there were 10 forceps cases.

45. *Medico-legal*.—Nine hundred and eighty-three persons were sent to the General Hospital by the Police, 102 bodies were sent for post-mortem examination by the Coroner and 28 persons were sent for observation as to sanity.

46. *Staff*.—Senior Medical Officer.—I succeeded Dr. LEASK on 24th March, 1910, and remained in charge until the end of the year.

47. *Medical Officers*.—Dr. E. D. WHITTLE was transferred to Port Health Office on 5th April, 1911.

48. Dr. R. BRUCE LOW commenced duty on 13th April, 1910, and was transferred to Port Health Office on 9th July, 1910.

49. Dr. J. F. O'BRIEN arrived on 22nd April, 1910, and was transferred to Penang on 1st November, 1910.

50. Dr. H. S. SUGARS arrived from England on 30th September, 1910, and remained to the end of the year.

51. Dr. H. M. C. GREEN arrived on 21st October, 1910, and remained to the end of the year.

52. *Nursing Sisters*.—Miss MCNAIR, the Head Nurse, was in charge during the year.

53. Miss S. B. SMITH left for Penang on 30th April, 1910.

54. Miss H. H. THEOBALD was appointed on 20th May, 1910, *vice* Miss LINTON, resigned.

55. Miss A. STEPHENS resigned on 27th April, 1910.

56. Misses B. M. WATSON and C. M. HALLIWELL arrived from Europe on 21st July, 1910, and Misses C. E. J. PUGH and R. THEAKER arrived on 7th July, 1910.

57. Miss D. HART resigned on 30th December, 1910.

58. Miss F. M. SUTTON resigned on 13th September, 1910.

59. Miss F. B. PEARN was appointed on 17th January, 1910.

60. Miss R. A. MANCELL resigned on 19th April, 1910.

61. Miss E. SAVERY resigned on 30th March, 1910.

62. Miss H. F. C. MACLEAN arrived from Europe on 23rd December, 1910.
63. *Nursing Probationers*.—Mrs. A. P. MATHIESON was appointed on 1st January, 1910, and was transferred to Penang on 30th December, 1910.
64. Miss D. WHITEFIELD was appointed on 10th January, 1910.
65. Mrs. A. CORNELIUS was appointed on 16th March, 1910, *vice* Miss E. WHEELER, resigned.
66. Mrs. G. PENDELL was appointed on 1st April, 1910, and she resigned on 8th August, 1910.
67. Miss A. M. CHARTER was appointed on 2nd June, 1910.
68. Miss L. KLIMMET was appointed on 1st August, 1910, and she resigned on 21st December, 1910.
69. Miss E. DAVIDSON was appointed on 1st September, 1910, and she resigned on 1st November, 1910.
70. Mrs. A. E. HOLMAN left for Penang on 23rd November, 1910.
72. Miss H. J. MORTON left for Penang on 30th December, 1910.
71. Miss A. SHARP left for Penang on 1st December, 1910.
73. *Clerk*.—Mr. TAN YEW KOH resigned on 31st January, 1910, and was replaced by PHUA KEAH MOH on 5th February, 1910.
74. T. HOEDEN was appointed in August, 1910, *vice* PONNAMBALAM transferred to Labuan in August, 1910.
75. Dresser. TAMBY DORAY resigned on 21st July, 1910, and J. FERNANDEZ was taken in his place.

Central Station.

REPORT BY Dr. W. S. SHEPPARD, *Police Surgeon*.

For the total number of the force attending the out-patients' room at the Central Station, please see return enclosed "Table A."

The greatest number seen in one day was 45; the least 6.

Of these out-patients, 305 were sent to the General Hospital as in-patients, compared with 388 in 1909; 512 in 1908; 289 in 1907; and 294 in 1906.

In addition to these 305 patients, 365 were sent direct to the General Hospital by their own officers.

Of the 670 thus admitted to the General Hospital, the most common diseases were:—

Malaria	...	...	...	...	222 cases.
Venereal diseases	...	...	...	...	80 „
Bronchitis	...	...	...	...	35 „
Dysentery	...	...	...	...	32 „
Alcoholism	...	...	...	...	9 „
				Total	378 „

No deaths occurred.

Tables B and C attached, contain particulars of the candidates passed and rejected during the year.

The police stations were inspected from time to time and reported on.

Dr. DANE was in charge from January to March 19th; Dr. ROBINSON from March 19th to December 24th; Dr. FURNIVALL succeeded Dr. ROBINSON.

TABLE A.

The total Number of the Force attending the Out-patient Room at the Central Station since 1905.

1905.	1906.	1907.	1908.	1909.	1910.	Increase in 1910.
4,283	3,301	3,518	4,454	3,924	5,796	1,872

TABLE B.

Return of Recruits who joined the Force, during the Year.

Settlement of Singapore.	NATIONALITIES.							Total.
	Europeans.	Eurasians.	Sikhs.	Malays.	Tamils.	Chinese.	Other Indians.	
	2	Nil.	36	101	14	29	33	215

TABLE C.

Return of Men rejected by the Police Surgeon during the Year 1910.

Malays.	Other Indians.	Chinese.	Sikhs.	Total.
43	26	24	32	125

Prison Hospital.

REPORT BY DR. H. W. FURNIVALL, *Acting Medical Officer.*

1. The sanitary condition of the Prison is good and the health of the Prison satisfactory.

2. *Admissions to Hospital.*—There were 1,061 admissions; this, with 54 who remained from the previous year, gives a total treated of 1,115.

3. The average daily sick was 47·05, against 49·11 in 1909.

4. The diseases which showed most admissions were Diarrhœa 247, Fever 175, (including Malaria), Dyspepsia 86, Dysentery 68.

5. *Diarrhœa and Dysentery.*—The following table shows the admissions and deaths during the last five years:—

	1906.		1907.		1908.		1909.		1910.	
	Admis- sions.	Deaths	Admis- sions.	Deaths	Admis- sions.	Deaths	Admis- sions.	Deaths	Admis- sions.	Deaths
Diarrhœa	263	6	169	...	190	...	212	1	247	1
Dysentery	205	30	88	5	41	8	66	15	68	18

6. *Cholera*.—One case arrived in the Prison with the disease. He died and no other case occurred.

7. *Enteric Fever*.—There were none.

8. *Beri-beri*.—There were no cases.

9. The figures for the different classes of prisoners can be seen from the following table:—

	Criminal.	Civil.	Vagrants.
A. Total population of Prison ...	3,966	3,319	507
B. Average daily population of Prison ...	877	73	42
C. Total treated in Hospital ...	984	27	104
D. Percentage of C to A ...	24·81	0·81	20·51
E. Total deaths ...	26	6	7

10. *Deaths*.—There were 39, distributed amongst the different grades: Middle 9, Lower 3, Short sentence 13, Revenue 1, Civil prisoners 6 and Vagrants 7. The percentage of deaths to total treated in Hospital is 3·4 and to total Prison population 0·5.

11. *Causes of Deaths*.—Dysentery 18, Pulmonary Tuberculosis 6, Pneumonia 3, Cerebral Hæmorrhage 3, Heart Disease 2, Chronic Kidney disease 2, Diarrhœa 1, Cholera 1, Fibroid Phthisis 1, Paraplegia 1 and Chronic Malaria 1.

12. All the deaths, 13 amongst the vagrants and civil prisoners, occurred in prisoners who were in a feeble state of health on admission and were suffering from the diseases which eventually caused their deaths.

13. There were 26 deaths amongst criminals out of a total criminal population 3,966, giving a percentage of 0·65.

14. *Execution*.—There was one. A Chinese condemned prisoner was hanged on 25th July.

15. *Transfers to Lunatic Asylum*.—There were seven.

16. *Transfer to Leper Asylum*.—There was one.

17. *Staff*.—Dr. ROBINSON took over the duties of Medical Officer from Dr. DANE on 18th March and I relieved Dr. ROBINSON on 26th December. The Assistant Surgeon and Dresser have remained the same.

Tan Tock Seng's Hospital.

REPORT BY DR. E. D. WHITTLE, *Medical Officer-in-Charge*.

1. *Work done*.

Remained 31st December, 1909	...	...	446
Admitted 1910 ...	...	...	9,532
		Total treated	9,978
Discharged ...	...	...	7,838
Died / ...	...	...	1,568
Remaining 31st December, 1910	...	...	572

2. The average daily sick was 519·77, against 470·06 in 1909.

3. The percentage of deaths to total treated was 15·71, against 15·61 in 1909.

4. The admissions have been steadily on the increase being 1,129 more than for the previous year. In consequence the accommodation of the hospital was sometimes taxed; to obviate this it was suggested that the hopelessly blind (men otherwise in good health) should be repatriated to China, as they were taking up a whole ward. This was found impracticable and instead it was decided to have a special ward built for them, which, when completed, will give us over 30 more available beds.

5. The principal diseases treated were.—Malaria, Venereal Diseases, Dysentery, Beri-beri, Injuries, Phthisis, Abscess, Rheumatism, Enteritis, Bright's Disease, Bronchitis and Enteric Fever.

6. Malaria formed the bulk of the admissions making up nearly one-third of the total number. The localities from which they came were chiefly from Pulau Ubin, Tanjong Pagar, Bukit Timah and Johore, a fairly good number representing rubber estate coolies. There were 3,150 cases treated in all, a considerable increase over that of the previous year, which gave only 1,922. The malignant form was the most prevailing type of the disease.

The deaths amounted to 377, giving a mortality of 11·96 per cent. A good many of these deaths occurred in cases brought to the hospital in a moribund condition, in whom even the intravenous injections of quinine proved unavailing.

7. *Venereal diseases*.—These were made up as follows:—

Primary and Secondary Syphilis	...	...	...	833
Gonorrhœal and Syphilitic Arthritis	...	...	...	209
Gonorrhœa	...	...	...	125
				<hr/>
			Total	1,167
				<hr/>

There were 22 deaths from Secondary Syphilis.

8. *Dysentery*.—Six hundred and forty-two cases were treated, 337 died, giving a mortality of 52·49 per cent. This high percentage of deaths is not surprising. The hopeless condition of the patients when they seek admission being verified by the appearances found in the post-mortem room.

9. *Beri-beri*.—Five hundred and ninety were treated, 108 died, giving a percentage of deaths to total treated of 19·67. 268 cases were transferred to the Beri-beri Hospital at Pasir Panjang.

10. *Pulmonary Tuberculosis*.—Of a total of 357 cases, 189 died, giving a mortality of 52·94 per cent, under this group should also be included several cases of general tuberculosis and of tubercular pleurisy and empyema.

11. *Enteric Fever*.—Thirty-nine cases were treated with 24 deaths.

12. Between July 25th and August 3rd, 9 cases of Cholera occurred in the hospital; they were all fatal and were confined to four of the upper collection of native wards. Stringent antiseptic precautions were taken and a very virulent outbreak suppressed.

13. In this connection I should like to point out the necessity of having a proper fence put round the upper wards to prevent patients going out and coming in as they like. It is impossible to prevent this under existing circumstances, they can easily slip into Ballestier and Thomson Roads, and outsiders can come in, in the same way. Patients are thus able to abscond with hospital clothing, and bring in undesirable articles of food. In addition there is the obvious danger, in times of epidemic outbreaks in the town, of infection being brought into the hospital.

14. The following table gives the admissions, deaths and percentage of deaths to total treated for each month for the two years 1909 and 1910:—

MONTHS.	Admissions.		Deaths.		Percentage of deaths to total treated.	
	1909.	1910.	1909.	1910.	1909.	1910.
January	563	731	109	111	19·36	9·43
February	562	634	91	89	16·55	8·40
March	655	670	87	123	13·28	10·86
April	607	684	98	100	16·14	8·82
May	647	643	112	130	17·31	11·42
June	682	756	131	119	19·21	9·46
July	742	867	91	150	12·26	10·72
August	697	778	119	130	17·07	10·07
September	740	824	133	156	17·97	11·84
October	861	985	147	153	17·07	9·90
November	861	983	140	147	16·28	9·50
December	786	977	125	160	15·90	10·15

15. One hundred and twenty-two patients were sent for observation, of whom 93 were certified as insane and transferred to the Lunatic Asylum.

16. The total number of deaths was 1,568, and the percentage of deaths to total treated 15·71. There were 162 deaths occurring within 24 hours of admission and 121 within 48 hours.

17. *European Ward.*—The total number treated was 319, with 11 deaths from the following causes:—Malaria 2, Secondary Syphilis 1, Peritonitis 1, Gastro-enteritis 1, Enteric Fever 1, Phthisis 2, Sapræmia 1, Valvular disease of heart 1, Bright's Disease 1.

The admissions were chiefly for malaria, venereal disease, alcoholism, phthisis and bowel complaints. Two cases were certified as insane and transferred to the Lunatic Asylum.

The nationalities of those treated were:—English 44, Scotch 17, Irish 13, Australians 16, Americans 3, Eurasians 76, French 2, Germans 4, Dutch 7, Russians 2, Japanese 114, and others 31.

18. *Medico-legal.*—Eighty-six bodies were sent for Coroner's inquest; in addition there were the usual inquests on those dying in the hospital from accidents and injuries.

Four hundred and eighteen cases were sent by the Police.

19. *Surgical aspect.*—A good deal of surgical work was done during year, the operations numbering 583, a list of them is appended.

20. Splenectomy was performed here for the first time in any number. The indications for the operation were:—(1) Trauma, and (2) great enlargement due to Chronic Malaria accompanied by pain, weight and discomfort. The weight of the spleens removed was from 800 to 3,000 grammes. The results are being watched whenever practicable, the convalescent patient is taken on as a coolie in the hospital; at present there are three so employed.

21. Spinal Anæsthesia was introduced during the last six months of the year. Twenty-eight operations were performed under this method, as specified below.

Bone wiring (Patella) 1, Sequestrotomy (femur and tibia) 2, Exploratory of malunited femur 1, bullet wound of tibia amputations leg and foot 4, reduction of dislocated hip 1, passive movement knee 1, Arthrectomy 5, Whitehead's operation for piles 4, Fistula in ano 1, amputation penis 2, Hæmatocele 1, Urethrotomy 1. Inguinal hernia 2, Exploratory laparotomy 1.

22. Iodine disinfection of the skin for both major and minor operations was also introduced. The method is simple, labour saving, and in every way more satisfactory than the older method. Stitch abscesses are of less frequent occurrence, and for emergency operations the advantages are obvious. The two per cent solution of iodine in rectified spirit has answered our purpose quite well.

23. *Buildings*.—Minor repairs and alterations were carried out during the year, wood paving was placed under the porticoes to the greater cleanliness of our entrance halls. The two septic tanks were constantly out of order for the most important hours of the day.

24. *Grounds*.—Some trees were felled, attempts were made to clear the greater portion of our boundaries. Our gardeners are too few in number to do more than keep the neighbourhood of the main roads tidy. Light garden labour is adopted as a therapeutic measure for many of our convalescents but is of little assistance. A little of the swampy ground below the dhoby shed has been filled in. Gas or oil lighting has been recommended by members of the visiting committee for the main roads and plans are being prepared. This is a desirable improvement, it will facilitate the night rounds of the staff and the conveyance of patients brought in after dark.

25. *Staff*.—Dr. GRAY left for the Federated Malay States on April 9th. He was succeeded by Dr. WEBSTER who was in residence till July 9th, when I relieved him.

Messrs. RODRIGUEZ, SINHA, D'CRUZ, MEHTA, APPADURAI, and CARNEGIE were attached as Assistant Surgeons during the year at different periods and have done good work.

There were continual changes among the dressers. Throughout the year we have been short of our complement. Our present recruiting methods are unsatisfactory. Instead of the present system of "volunteer dressers" unpaid for an undeterminate period, I would recommend a certain number of men to be taken on, after a month's trial without pay, as paid probationers. In this way it might be possible to obtain a class of men with better general education.

26. *Visitors*.—The Principal Civil Medical Officer made 20 visits and members of the committee 11.

LIST OF OPERATIONS FOR 1910.

Operations on Tumours and Cysts:—

Removal by excision (Tumours)	...	...	...	5
Removal by excision (Cysts)	5

Operation for abscesses:—

By incision, drainage or aspiration	129
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Operation for aneurysms:—

By ligature { Carotid 1 Femoral 1 }	2
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Operation on veins:—

Phlebotomy	2
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Operation on Lymphatics:—

Removal of glands—				
By excision	46
„ curetting	12

Operation on skin and subcutaneous tissues:—

Skin grafting	...	...	...	19
Evulsion of toe-nail	...	...	...	2
Removal of warts	...	...	...	2
Incisions for cellulitis	...	...	...	25
Curetting ulcers and sinuses	...	...	...	42

Carried forward ... 291

<i>Operation on bones :—</i>	<i>Brought forward</i>	...	291
Incision of periosteum	...	...	1
Excision of bone	...	...	3
Removal of sequestra	...	...	19
Removal of tuberculous lesion	...	...	4
Wiring for fracture	...	...	3
<i>Operation on joints :—</i>			
Reduction of dislocations	{ Shoulder 2 Hip 2 }	{ }	4
Incision of joints	...	...	5
Arthrectomy	...	...	2
Excision of joints	...	...	2
Exploration of joints	...	...	1
Passive movements for breaking down adhesions		...	2
<i>Operation on muscles and tendons :—</i>			
Union of divided tendon by suture	...	...	2
Removal of bullets (Gunshot wounds)	...	...	2
<i>Amputations :—</i>			
Thigh	... 1	}	28
Leg	... 5		
Toes	... 4		
Foot	... 2		
Shoulder	... 1		
Arm	... 1		
Fingers	... 14		
<i>Operations on skull, brain and meninges :—</i>			
Trephining	...	...	1
Elevation of depressed bone	...	...	1
Evacuation of intracranial abscess	...	...	1
<i>Operations on the spinal column :—</i>			
Laminectomy (for fracture dislocation)	...	...	1
<i>Operations on the eye :—</i>			
For ectropion	...	...	1
„ hypopion	...	...	4
Incision of lachrymal sac	...	...	1
Excision of eyeball	...	...	7
<i>Dental operations :—</i>			
Extraction of teeth	...	...	10
Alveolar abscess	...	...	1
<i>Operation on nose and accessory sinuses :—</i>			
For antral empyema	...	...	1
„ nasal polypi	...	...	2
<i>Operations on Larynx and Trachea :—</i>			
Tracheotomy	...	...	2
<i>Operations on Thorax :—</i>			
Paracentesis of pleura	...	...	8
Thoracotomy	...	...	2
Exploration of pleura	...	...	1
<i>Operations on Abdomen .—</i>			
Laparotomy (exploratory)	...	...	15
Excision of appendix	...	...	2
Opening and drainage of appendicular abscess	...	...	1
Appendicostomy	...	...	1
For strangulated hernia	...	...	2
„ inguinal hernia (radical cure)	...	...	9
Exploration of Liver	...	...	2
Omentopaxy	...	...	1
For liver abscess	...	...	3
Cholecystotomy	...	...	1
Splenectomy	...	...	7
	<i>Carried forward</i>	...	457

<i>Operations on rectum and anus:—</i>				<i>Brought forward</i> ...	457
For anal fistula	...	...	...	...	9
„ hæmorrhoids	{ Ligature 6	{	...	...	10
	{ Whitehead's 4	}	...	...
Dilatation of rectal stricture	...	...	...	...	1
<i>Operations on bladder and urethra:—</i>					
Suprapubic cystotomy	...	...	...	...	1
External urethrotomy	...	...	...	...	7
Catheterization	...	...	...	...	2
Removal of urethral calculus	...	...	...	...	1
Dilatation of urethral stricture	...	...	...	...	3
<i>Operations on male genitalia:—</i>					
Circumcision	...	...	...	...	60
Amputation penis	...	...	...	...	8
<i>Operations on male genitalia:—</i>					
For varicocele	...	...	...	...	1
„ hydrocele (radical cure)	...	...	...	...	12
„ hæmatocele	...	...	...	...	2
„ elephantoid scrotum (removal)	...	...	...	...	1
„ removal of testis	...	...	...	...	4
„ hernia testis	...	...	...	...	4
					583

Leper Asylum.

1. *Male Camp.—*

Remained	...	...	...	19
Admitted	...	...	...	46
Total	...	...	...	65
Transferred	...	...	...	38 (To Pulau Jerejak, Penang.)
Absconded	...	...	...	6
Died	...	...	...	12
Remaining	...	...	...	9

2. *Female Camp.—*

Remained	...	...	...	26
Admitted	...	...	...	6
Total	...	...	...	32
Discharged	...	...	...	1
Died	...	...	...	3
Remaining	...	...	...	28

3. The buildings are clean and in fair state of repair.

4. Various remedies especially Nastin and Gurjon oil were tried during the year. No beneficial results were noticed. The patients objected to the bother of treatment.

Quarantine Camp.

1. The buildings have been subject to minor repairs. A large temporary ward was erected for the reception of the unusual number of small-pox patients. The grounds have been well cleared during the year.

2. One case remained at the beginning of 1910, 458 patients were admitted with 138 deaths. The chief infectious diseases were:—Small-pox 355, Cholera 39, and Plague 3.

3. Eighty-two small-pox patients died. The death-rate amongst those vaccinated even at infancy was 11·53 per cent; of those without history or sign of vaccination 36·17 per cent. Cases of Varicella, Malaria, Yaws, Syphilis, Erythema Nodosum and Scabies were admitted as possibly variola.

Lunatic Asylum.

REPORT BY Dr. H. J. GIBBS, *Medical Superintendent.*

From No. 1 of the appended tables is ascertained that there remained on 31st December, 1909, 284 males and 67 females, that there were admitted in 1910 182 males and 46 females, giving a total treated for the year of 466 males and 113 females, or a grand total of 579 patients which is the largest on record.

Of the above admissions 23 males and six females were not first admissions, they having been treated in this Asylum on previous occasions.

Of the above total treated in 1910, 79 males and 14 females were discharged recovered; 14 males and 8 females relieved; 4 males and 5 females not improved; 5 males and 2 females absconded and 102 males and 13 females died.

The total cases thus discharged, absconded and died during the year amounted to 246 and they consisted of 204 males and 42 females.

There remained in the Asylum on 31st December, 1910, 262 males and 71 females or a total of 333 patients.

The average daily number resident was 359, consisting of 285 males and 74 females.

The maximum and minimum daily numbers were 400 and 322 respectively.

Of the 333 patients remaining on 31st December, 1910:—

Males. Females.

—	—				
167	46	...	...	came from Singapore.	
58	17	...	...	„ „ Penang.	
20	5	...	...	„ „ Province Wellesley.	
5	2	...	...	„ „ Selangor.	
2	—	...	...	„ „ Seremban.	
2	1	...	...	„ „ Johore.	
2	—	...	...	„ „ British North Borneo.	
3	—	...	...	„ „ Labuan.	
3	—	...	...	„ „ Kelantan.	

The nationalities of the above remaining were:—

				<i>Males.</i>	<i>Females.</i>
				—	—
British	...	...	...	3	0
Dutch	...	...	...	0	1
Germans	...	...	...	1	0
Eurasians	...	...	...	10	2
Japanese	...	...	...	1	0
Jews	...	...	...	1	0
Malays	...	...	...	13	8

				<i>Males. Females.</i>	
				—	—
Bugis	...	...	...	0	1
Tamils	...	...	...	10	4
Bengalis	...	...	...	3	0
Bombaymen	...	...	...	1	0
Cinghalese	...	...	...	1	0
Javanese	...	...	...	4	4
Siamese	...	...	...	0	1
Jawipakan	...	...	...	0	1

Chinese:—

Hokkiens	...	...	...	84	7
Tieu-Chews	...	...	...	34	7
Cantonese	...	...	...	31	32
Hakkas	...	...	...	35	3
Hailams	...	...	...	23	0
Liu Chews	...	...	...	4	0
Kow Chews	...	...	...	3	0

From Table *II* is ascertained that there remained on 31st December, 1888, 176 males and 32 females and that from 1st January, 1889, to 31st December, 1910, a period of 22 years, there were treated 3,984 males and 702 females. Of these 1,815 were discharged recovered, 492 were relieved, 158 had not improved, 141 absconded and 1,747 died.

The death-rate for the above period averaged yearly between 79 and 80, and the recovery rate of between 82 and 83 patients.

Seven patients, on an average, absconded each year during this time.

Table *III*, in addition to furnishing the information provided by Tables *I* and *II*, gives the number remaining on the 31st December, and the average number resident for each year from 1886 to 1910, as well as showing the yearly percentage of recoveries on the admissions from 1888 and of the deaths on the average daily number resident from 1886 onwards.

It will be noted that our recovery rate is based on the tables in use by His Majesty's Commissioners in Lunacy, *i.e.*, the total recoveries on the admissions for the year. This gives a very favourable rate. To my mind a more satisfactory method would be to base the recovery rate on the total treated or (*b*) the recoveries of those admitted on the admissions for the year in question. The recovery rate, as shown in Table *III*, amounts to 40.79 being 43.41 for the males and 30.43 for the females. Were the recovery rate to be based on my suggestions for (*a*) the recovery rate would be only 16.06 per cent and 25 per cent for (*b*).

The death-rate for 1910 was 32.03 on the average daily number resident and 19.86 on the total treated.

It will be noticed that the recovery rate for 1910 compares favourably with, while the death-rate is considerably higher than, most of the preceding years. Reference to the high death-rate is made lower down in this report.

Table *IV* shows amongst the admissions the new cases and those re-admitted from 1890 to 1910. The re-admissions bear a proportion to total admissions for 20 years of 10.33 per cent and a percentage of 11.49 on the first admissions. For 1910, the percentages, respectively, are 20.18 and 25.27.

This table further shows the numbers recovered, relieved, not improved, absconded, and died in 1910, of the admissions for that and preceding years, as well as the total recoveries, relieved, not improved, abscondments and deaths of each year's admissions for the last 20 years; as well as the numbers remaining on the 31st December, 1910, of each year's admissions up and prior to 1889.

Table *V* gives the number and causes of deaths amongst the inmates for 1910, with the ages at the time of death. The majority of the deaths occurred between 25 and 45. It will be seen that prolific causes of death were cholera, dysentery and pulmonary tuberculosis.

Table VI shows the length of residence in the Asylum of those who recovered and died in 1910. The majority of recoveries occurred in those with a residence of from one to nine months.

The majority of the deaths occurred in those with a residence from under one month to a period of from three to five years.

The number of deaths occurring within a month's residence indicates the greatly impaired physical condition of the patients on admissions.

Table X-a gives the probable causes apparent or assigned of the disorders in the admissions. Amongst the main causes assigned malaria ranks highest with 32, previous attacks with 31, heart disease with 29 and intemperance in alcohol 16. Forty-seven patients on admission had signs of previous syphilis. In six of them it could be positively affirmed that this disease was the cause of insanity and these figures bear out English statistics that syphilis accounts for from 2 to 3 per cent of the cases admitted into the English Asylums. Very probably syphilis had also something to do with the causation of insanity in the other admissions in which it has been assigned as a cause, but as other causes were also in evidence it is doubtful whether it was the main cause of the mental break-down.

In 85 of the admissions no cause could be assigned.

Alcohol as a factor in the causation of insanity is slightly higher than it was for last year. The percentage for 1910 was 7.02 as against 6.36 in 1909. The liquor consumed varied from whisky and gin in the Europeans to cheap brandy, arracks, sweet potato and corn spirit and toddy amongst the Chinese and Tamils.

In two of the cases a morphia habit was traced, but it is very questionable whether this drug induced insanity as they both suffered from pulmonary tuberculosis.

One patient attributed his insanity to the drinking of petroleum. The signs manifested were those of ordinary mania.

Tables X-b and X-c assign, respectively, causes for the insanity in the discharges and deaths. Privation and starvation figure largely in the deaths. In no less than 11 cases were such causes assigned for the insanity of the patients, no causes could be assigned in 31 and 39 cases, respectively, of the discharges and deaths.

Table XI gives the form of mental disorders in the admissions, recoveries, deaths, and for those remaining in the asylum on 31st December, 1910.

In addition to the above facts elicited from the tables there remained on the 31st December, 1909, 20 criminal lunatics and lunatic criminals, 17 were admitted in 1910, 7 were discharged, 6 died, 1 absconded, the sentences of 3 expired and there remained on 31st December, 1910, 20 such prisoners consisting of 18 males and 2 females.

Cholera.—I regret to have to report a somewhat serious outbreak of this disease. At 10 P.M. on the 5th July, a Hailam patient named FOO AH TEH, who had been an inmate since the 14th March, 1908, was taken ill in one of the association wards and died on the 6th July. He was promptly segregated and the ward disinfected. At 3 A.M. on the 7th July, another Hailam with a 26 months' residence and occupying the same ward was also taken ill with the disease and died. From the 7th to 12th July, there were no cases, but on that date a case of acute gastro-enteritis occurred also in the same ward. He was removed to a shed erected for the purpose outside the asylum walls and there died after an illness of six-and-a-half days. His symptoms were not typically characteristic of cholera nor could the comma bacilli be found in his stools which were enteritic in character. On the 19th July, a typical case of cholera occurred in an adjoining association ward and he died after a few hours' illness; he had been in the asylum for six years, the fourth case occurred on the 20th, three on the 21st, one on the 22nd and the ninth case on the 23rd July, when 194 of the native patients were transferred to the Quarantine Station on St. John's Island and all the lower levels of the asylum vacated. Of the nine cases, eight died and one survived; all the cases, with the exception of the two on the 22nd and 23rd July, occurred in the two association wards, these later occurring in "M" and Refractory blocks respectively. The last-mentioned blocks were close to the association wards and on the lowest level of the asylum.

With the removal of the 194 patients no further cases occurred amongst the fifty Europeans, Eurasians and natives left behind at Sepoy Lines; but, amongst those transferred cases continued to occur daily at St. John's Island. In all there were 39 cases at St. John's Island with 30 deaths: 150 of the 194 patients returned to us on the 23rd August, no cases having occurred amongst them since August 6th.

During their absence the whole of the Asylum was thoroughly disinfected with formalin; the walls scraped and limewashed, the paint on the iron bars and doors scraped and the iron and wood-work of all the cells and wards repainted.

No cases occurred after the return of the patients from St. John's.

No local infection could be traced; the subsoil water was found to be free from comma bacilli.

Some months after the outbreak some leaky, underground water pipes were discovered and it was thought that the condition of these pipes might have had something to do with the outbreak; but this is very questionable. I think the true solution of the outbreak lies in the fact that cholera was very prevalent in Singapore at the time and a study of the Asylum history shows that it has shared with the other portions of the town in such outbreaks of cholera as have visited the Island.

Beri-beri.—I am glad to be able to report the non-occurrence of any cases and our immunity undoubtedly lies in the adoption of parboiled rice as an article of diet. Since the 21st December, 1910, a new grain termed No. IV white, undermilled asylum rice, on the recommendation of Dr. HIGHET of Bangkok, as a valuable prophylactic, has been exclusively used for the patients at Sepoy Lines. It is too early to speak of its prophylactic virtues, but it is a very palatable grain, satisfying, makes good congee and is greatly preferred by one and all to the parboiled variety. No cases of beri-beri have occurred amongst those feeding on it.

While on this subject it is interesting to revert to the reports on the Asylum by Dr. ELLIS in 1896 and 1897. In the former year he writes of the health of the asylum as being appalling, especially in the months of March and April, and in speaking of the œdematous form of beri-beri he quotes the following lines written by the late Doctor MOXON:—

“The suffering the patient knows;
The physical change the Doctor knows; and
The cause God alone knows.”

and later on, while in doubt as to the nature of the disease he has to fight against, he quotes another physician who wrote: “When what is known is little and unsatisfactory, and what is unknown is much and promising, then the tendency is almost inevitable to turn from the little that is known and make guesses about the greater unknown—and the guess is one's own, while the facts are anybody's, so the guess is fostered with a parent's love.”

In his report for 1897 he writes: “the Asylum must now be looked upon as a pest hole of beri-beri.”

No one here then thought that uncured Siam rice, and that alone, was the source of the trouble. The conditions then existing are practically what they are now. Yet, with the abolition of the uncured and the substitution of parboiled rice in the dietary of the patients, beri-beri has vanished.

Prevalence of Insanity.—It is satisfactory to learn that the percentage of insanity is considerably lower in the Straits Settlements than in England and Wales. This percentage based on the last census figures is, for the Straits Settlements 5·27 per 10,000 and 36·1 per 10,000 in England and Wales. Figures which indicate that a fairly wide gulf exists between civilization and ourselves. For the Straits Settlements, Singapore stands highest with 7·66, Penang 6·18, Malacca 3·03, and Province Wellesley ·73.

Dr. ELLIS, in bringing these figures to the notice of the Government, stated that the lessening of our figures was caused by:—

- (1) Abnormal ratio of females to males and so less puerperal insanity.
- (2) Abnormal number of very old and very young.
- (3) But little alcoholism and practically no stress.
- (4) Overcrowding of asylum predisposing to an abnormally high death-rate.
- (5) Deportation of the many of the partially insane, imbecile and weak-minded to their own countries.

Suicide.—I am also glad to be able to record the absence of any deaths from suicide. Three very determined attempts by hanging were made, but were frustrated by the vigilance of the attendants. In two of the cases the patients were unconscious when cut down and it took us fully an hour to resuscitate them.

Casualties.—The casualties were mostly trifling; one death has to be recorded of a male patient at Pasir Panjang who, while lying under a coconut tree, was struck on the left side of his head and abdomen by a falling nut; death resulted from concussion

and compression of the brain and from shock following injury to the solar plexus. Two females broke their legs and forearms, respectively, by accidental falls.

Admissions.—Of the 182 males and 46 females:—

Males. Females.

121	37	...	...	...	came from Singapore.
32	8	...	...	...	Penang.
1	0	...	...	...	Province Wellesley.
21	0	...	...	...	Malacca.
1	0	...	...	...	Johore.
1	0	...	...	...	Selangor.
0	1	...	...	...	Seremban.
3	0	...	...	...	Kelantan.
1	0	...	...	...	Klang.
1	0	...	...	...	British North Borneo.

Discharges.—Twenty-one Indian patients consisting of 16 males and 5 females were repatriated to Madras on the 29th September, 1910.

A futile attempt was made to induce the Chinese Government to repatriate a hundred of their subjects.

Deaths.—Our death-rate, which had been only 6.22 per cent for the first six months in the year, (the number of deaths being 24 and the average daily number 370), rose to 21 per cent on the average daily number during the months of July, August and September (the number of deaths being 41 for July, 25 for August and 12 for September on an average daily number of 365) and fell to 4.23 per cent for the last quarter of the year (the deaths being 14 and the average daily number 331).

Cholera, dysentery and tuberculosis accounted for 79 of the 115 deaths. The Asylum has been greatly overcrowded and steps have been taken to convert the present storeroom into an association ward for 25 patients, but this will only temporarily relieve our congestion. Either a new asylum should be built; or the land to the south of the asylum be purchased and an association ward for 50 patients, with single cell accommodation for 30 patients be constructed at an early date. As we already possess the necessary land for a new asylum it will certainly be much better to build an asylum to accommodate 500 patients than to temporise with the present buildings.

Industries—During the year, owing to the outbreak of cholera in the Asylum and the consequent absence of the patients on St. John's, only 5,280 yards of check cloth were woven and from which were made 102 European jackets, 73 European trousers, 1,058 native trousers, 980 native jackets, 198 sarongs and 191 jackets for the females, 19 mattress covers, 74 dusters and 20 pillow cases.

From sail canvas purchased 36 strong rugs and 10 combination suits have been made.

General.—The revenue derived from paying patients amounted to \$4,661.39, the sale of stores produced \$33.40.

The monthly cost of the maintenance per head was \$10.16 as against \$11.08 in 1909.

Staff.—I assumed charge as Medical Superintendent on the 1st January, 1910, in the place of Dr. ELLIS promoted to the Principal Civil Medical Officership. Messrs. SCULLY and LEICESTER did duty as Assistant Surgeons. The former retiring on pension after three months' leave dating from the 1st August, 1910.

Mrs. GUNN, LIM PANG KIAH and AU CHIANG SENG have continued as Matron, Steward and Clerk, respectively, throughout the year.

European Attendant JOHNSON returned from leave and resumed his duties on 28th October, 1910.

European Attendants NIALL and KERR have done good work throughout the year.

Messrs. FRANCIS, KANDIAH and REINCASTLE have worked as Dressers, the former at Sepoy Lines and the last mentioned at Pasir Panjang.

My thanks are due to all for their ready co-operation in the work of the Asylum.

TABLE I.

LUNATIC ASYLUM.

Table showing the Admissions, Discharges and Deaths during the Year 1910.

—	Male.	Female.	Total.	Male.	Female.	Total.
In the Asylum on 1st January, 1910	...	...	...	284	67	351
Cases admitted :—						
First Admissions	159	40	199	...	...	...
Not First Admissions	23	6	29	182	46	228
Total cases under care during the year	...	...	...	466	113	579
Cases Discharged :—						
Recovered	79	14	93	...	...	...
Relieved	14	8	22	...	...	...
Not Relieved	4	5	9	...	...	...
Absconded	5	2	7	...	...	...
Died	102	13	115	...	...	...
Total cases discharged and died during the year	...	...	...	204	42	246
Remaining in the Asylum on 31st December, 1909	...	...	...	262	71	333
Average number resident during the year	...	...	...	285	74	359

TABLE II.
LUNATIC ASYLUM.

Table showing the Admissions, Re-admissions, Discharges and Deaths from 31st December, 1888, to 31st December, 1910.

—	Male.	Female.	Total.	Male.	Female.	Total.
Remaining on the 31st December, 1888	...	...	...	176	32	208
Persons admitted during the period	...	...	...	3,437	594	4,031
Re-admissions	...	...	...	371	76	447
Total cases treated	...	...	...	3,984	702	4,686
Discharged cases :—						28
Recovered	1,599	216	1,815	...	...	...
Relieved	391	101	492	...	...	...
Not improved	114	44	158	...	...	...
Absconded	120	21	141	...	...	...
Died	1,498	29	1,747	...	...	...
Total cases discharged and died since 31st December, 1888	...	...	...	3,722	631	4,353
Remaining in the Asylum on 31st December, 1910	...	...	...	262	71	333

TABLE III.

LUNATIC ASYLUM.

Table showing the Admissions, Discharges and Deaths, with the Mean Annual Mortality and Proportion of Recoveries per cent on the Admissions for the Year 1886 to 1910 inclusive.

YEAR.	Admitted.		Discharged.						Absconded.			Died.			Remaining on 31st December, of each Year.						Average Number Resident.			Percentage of Recoveries on Admissions.			Percentage of Deaths on the Average Number Resident.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	Male.	Female.	Recovered.			Relieved.			Not Improved.			Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
1886</

TABLE IV.

LUNATIC ASYLUM.

Table showing the History of the Annual Admissions, since 1889, with the Discharges and Deaths, and the Numbers of each Year Remaining on 31st December of the Year reported on.

YEAR.	Admitted.				Of each Year's Admissions, Discharged and Died in 1910.												Total Discharged and Died of each Year's Admissions to 31st December, 1910.												Remaining of each Year's Admissions, 31st December, 1910.		
	New Cases.		Re-admissions.		Recovered.				Relieved.				Not Improved.				Absconded.				Died.				Total.				Male.	Female.	Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Prior to 1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1889	197	26	27	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1890	137	25	25	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1891	144	26	14	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1892	170	27	14	9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1893	157	24	12	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1894	156	30	17	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1895	186	21	16	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1896	98	21	24	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1897	129	21	8	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1898	118	30	12	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1899	143	29	14	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1900	137	21	17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1901	129	14	14	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1902	176	27	15	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1903	201	24	22	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1904	177	26	23	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1905	176	30	23	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1906	148	29	15	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1907	167	34	8	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1908	154	43	20	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1909	159	40	23	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1910	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

TABLE V.
LUNATIC ASYLUM.

Showing the Causes of Deaths during the Year 1910, together with the Ages at Deaths.

CAUSES OF DEATH.	Under 15 years.		15 and under 20 years.		20 and under 25 years.		25 and under 30 years.		30 and under 35 years.		35 and under 40 years.		40 and under 45 years.		45 and under 50 years.		50 and under 55 years.		55 and under 60 years.		60 and under 65 years.		65 and under 70 years.		70 and under 75 years.		75 and under 80 years.		TOTAL.			
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.		
INFECTIVE DISEASES.—	3	...	4	...	3	...	5	...	11	...	8	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	37	...		
	2	...	3	...	6	...	5	...	2	...	1	...	1	...	...	...	...	...	...	...	...	...	...	4	...			
	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...		
	2	...		
	1	1	1	...	1	2	2	1	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7	6	13		
	2	...	2	...	
	1	1	2	
NERVOUS SYSTEM. DISEASE OF BRAIN AND MEMBRANES.—	1	...	2	...
	1	...	1	...
	1	...	1	...
	1	...	1	...
NERVOUS DISORDERS.—	1

MENTAL DISEASES.—

Mania, acute, delirious	1	1	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	1	...	4
Carried forward	3	1	7	...	7	2	16	2	23	14	1	15	7	1	8	2	4	1	5	4	...	...	...	...	...	...	85	13	98	

DEATH RATE PER MILE CALCULATED ON A MEAN ANNUAL POPULATION 134,343
RURAL POPULATION 30,761

1910

DEATH RATE WITHIN MUNICIPAL LIMITS
CALCULATED ON A POPULATION OF 103,582

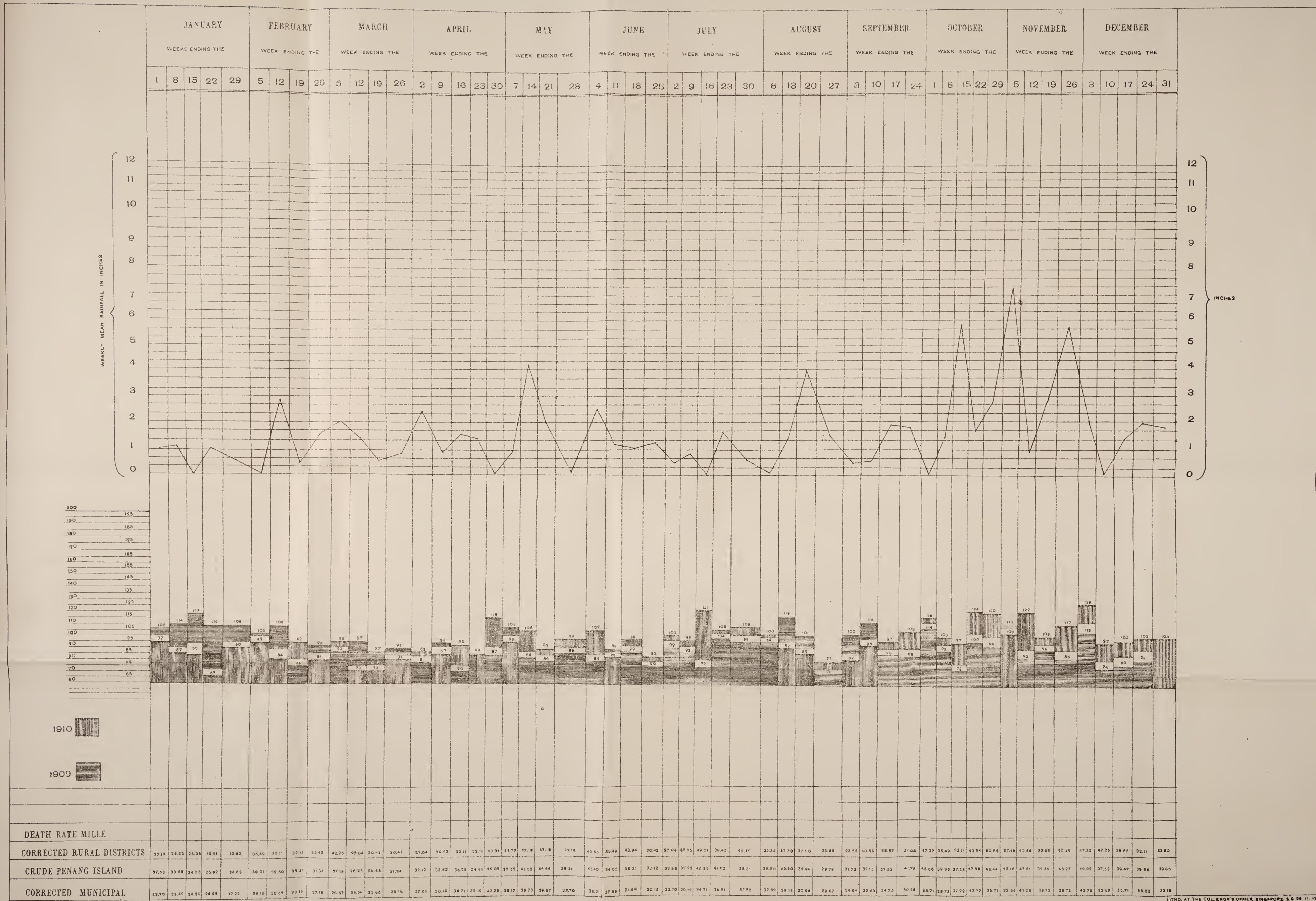


TABLE VI.

LUNATIC ASYLUM.

Table showing the Length of Residence of those Discharged, Recovered and of those who Died, during the Year 1910.

Length of Residence.				Recovered.			Died.		
				Male.	Female.	Total.	Male.	Female.	Total.
Under one month	...	...	...	3	1	4	15	1	16
From one to three months	...	...	...	20	4	24	16	4	20
„ three to six months	...	...	...	27	3	30	15	2	17
„ six to nine months	...	...	...	13	4	17	8	...	8
„ nine to twelve months	...	...	...	5	1	6	3	3	6
„ one to two years	...	...	...	8	1	9	11	...	11
„ two to three years	...	...	...	...	...	...	10	1	11
„ three to five years	...	...	...	3	...	3	14	...	14
„ five to seven years	...	...	...	...	...	...	6	1	7
„ seven to ten years	...	...	...	...	...	...	2	1	3
„ ten to fifteen years	...	...	...	...	..	...	1	...	1
„ fifteen to twenty-five years	...	...	...	...	...	...	1	...	1
TOTAL				79	14	93	102	13	115

TABLE X-a.

LUNATIC ASYLUM.

Table showing the Probable Causes, Apparent or Assigned, of the Disorders in the Admissions, Discharges and Deaths of the Year 1910.

CAUSES.	ADMISSIONS.											
	Number of Instances in which a Cause was Assigned.											
	Admissions :—Male 182. Female 46. Total 228.											
	As Predisposing Cause.			As Exciting Cause.			As Predisposing or exciting Cause.*			Total. †		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
<i>Moral.</i>												
Domestic Troubles (including loss of relatives and friends)	4	2	6	...	...	...	4	2	6
Adverse Circumstances (including business anxieties and pecuniary difficulties)	1	1	2	...	...	...	1	1	2
Mental Anxiety and Worry and Overwork
Religious Excitement
Love Affairs (including seduction)
Fright and Nervous Shock
<i>Physical.</i>												
Intemperance in Drink	15	1	16	...	...	...	15	1	16
Venereal Disease	5	1	6	37	4	41	42	5	47
Self-abuse
Sunstroke
Accident or Injury
Pregnancy
Parturition and the Puerperal State	1	1	...	...	...	...	1	1
Uterine and Ovarian Disorders
Lactation
Puberty
Epilepsy	4	1	5	...	...	...	4	1	5
Privation and Starvation	1	...	1	...	...	...	1	...	1
Heart Disease	17	2	19	8	...	8	2	...	2	27	2	29
Phthisis	10	9	19	...	...	...	10	9	19
Malarial Fever	28	4	32	...	...	...	28	4	32
Typhoid Fever	2	...	2	...	...	...	2	...	2
Other Bodily Diseases or Disorders	7	4	11	7	4	11
Previous Attacks	24	7	31	...	...	...	...	...	...	24	7	31
Old Age	5	3	8	...	...	...	...	...	...	5	3	8
Meophia Habit	2	...	2	2	...	2
Hereditary Influences ascertained ...	7	1	8	...	...	...	...	...	...	7	1	8
Congenital Defect	1	...	1	...	...	...
Indian Hemp Smoking
Unknown	67	18	85

* Where these could not be distinguished. † Some of the admissions are credited with more than one cause; therefore the sum of the "known" and "unknown" exceeds that of the admissions.

TABLE X-b.

LUNATIC ASYLUM.

Table showing the Probable Causes, Apparent or Assigned, of the Disorders in the Admissions, Discharges and Deaths of the Year 1910.—Continued.

CAUSES.	DISCHARGES.											
	Number of Instances in which a Cause was Assigned.											
	Discharges :—Male 102. Female 29. Total 131.											
	As Predisposing Cause.			As Exciting Cause.			As Predisposing or Exciting Cause.*			Total. †		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
<i>Moral.</i>												
Domestic Troubles (including loss of relatives and friends)	4	1	5	...	...	...	4	1	5
Adverse Circumstances (including business anxieties and pecuniary difficulties)	4	...	4	...	...	...	4	...	4
Mental Anxiety and Worry and Overwork
Religious Excitement
Love Affairs (including seduction)
Fright and Nervous Shock
<i>Physical.</i>												
Intemperance in Drink	17	...	17	...	...	...	17	...	17
Venereal Disease	5	1	6	17	4	21	22	5	27
Self-abuse
Sunstroke
Accident or Injury
Pregnancy
Parturition and the Puerperal State	2	2	...	...	...	...	2	2
Uterine and Ovarian Disorders
Lactation
Puberty	1	...	1	...	...	...	1	...	1
Epilepsy	1	...	1	...	...	...	1	...	1
Privation and Starvation	1	...	1	...	...	...	1	...	1
Heart Disease	11	2	13	11	2	13
Phthisis	1	1	3	4	7	...	...	...	3	5	8
Malarial Fever	27	...	27	...	...	...	27	...	27
Typhoid Fever	1	...	1	...	...	...	1	...	1
Other Bodily Diseases or Disorders	6	3	9	6	3	9
Previous Attacks	21	5	26	...	...	...	...	...	...	21	5	26
Old Age	1	2	3	...	...	...	...	...	...	1	2	3
Morphia Habit	1	...	1	...	...	...	1	...	1
Hereditary Influences ascertained ...	4	...	4	...	...	...	...	...	...	4	...	4
Congenital Defect	1	...	1	...	...	...	...	...	...	1	...	1
Indian Hemp Smoking
Unknown	23	8	31

* Where these could not be distinguished. † Some of the discharges are credited with more than one cause; therefore, the sum of the "known" and "unknown" causes exceeds that of the discharges.

TABLE X-c.

LUNATIC ASYLUM.

Table showing the Probable Causes, Apparent or Assigned, of the Disorders in the Admissions, Discharges and Deaths of the Year 1910.—Continued.

CAUSES.	DEATHS.											
	Number of Instances in which a Cause was Assigned.											
	Deaths:—Male 102. Female 13. Total 115.											
	As Predisposing Cause.			As Exciting Cause.			As Predisposing or Exciting Cause. *			Total. †		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
<i>Moral.</i>												
Domestic Troubles (including loss of relatives and friends)	2	2	...	...	...	...	2	2
Adverse Circumstances (including business anxieties and pecuniary difficulties)
Mental Anxiety and Worry and Overwork
Religious Excitement
Love Affairs (including seduction)
Fright and Nervous Shock
<i>Physical.</i>												
Intemperance in Drink	1	...	1	...	...	...	1	...	1
Venereal Disease	19	1	20	19	1	20
Self-abuse
Sunstroke
Accident or Injury
Pregnancy
Parturition and the Puerperal State
Uterine and Ovarian Disorders
Lactation
Puberty	1	...	1	...	...	...	1	...	1
Epilepsy	1	1	2	...	...	...	1	1	2
Privation and Starvation	11	...	11	...	...	...	11	...	11
Heart Disease	19	2	21	19	2	21
Phthisis	3	5	8	6	2	8	...	...	...	9	7	16
Malarial Fever	3	...	3	...	...	...	3	...	3
Typhoid Fever	1	...	1	...	...	...	1	...	1
Other Bodily Diseases or Disorders	12	2	14	12	2	14
Previous Attacks	2	1	3	...	...	...	...	...	...	2	1	3
Old Age	2	2	4	...	...	...	...	...	...	2	2	4
Morphia Habit
Hereditary Influences
Congenital Defect	1	...	1	...	...	...	...	...	...	1	...	1
Indian Hemp Smoking
Unknown	38	1	39

* Where these could not be distinguished. † Some of the deaths are credited with more than one cause; therefore, the sum of the "known" and "unknown" causes exceeds that of the deaths.

TABLE XI.
LUNATIC ASYLUM.
Showing the Form of Mental Disorder on Admissions and Deaths of the Year 1910, and the Form of Mental Disorder of the Inmates on 31st December, 1910.

FORM OF MENTAL DISORDER.	Admissions.			Recoveries.			Deaths.			Remaining in Asylum.		
	Form of Mental Disorder, 31st December, 1910.			Form of Mental Disorder, 31st December, 1910.			Form of Mental Disorder, 31st December, 1910.			Form of Mental Disorder, 31st December, 1910.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Congenital or Infantile Deficiency without Epilepsy	1	1	2	...	...	...	1	...	1	9	1	10
Epilepsy acquired	3	1	4	...	...	1	3	1	4	5	2	7
General Paralysis of Insane	1	...	1	...	...	...	3	...	3	...	...	...
Mania, Acute	123	26	149	55	8	63	33	4	37	41	5	46
Do. Acute Delirious	13	1	14	2	1	3	10	...	10	4	...	4
Do. Chronic	1	...	1	...	...	...	1	1	2	4	4	8
Do. Recurrent	1	1	2	...	1	1	1	...	1	2	1	3
Do. A Potu	14	1	15	16	...	...	...	...	...	5	...	5
Do. Puerperal	...	1	1	...	1	1	...	...	...	...	1	1
Do. Senile	4	1	5	...	1	1	1	...	1	1	...	1
Melancholia, Acute	12	6	18	...	1	1	5	1	6	15	3	18
Do.	...	...	...	...	...	...	...	...	...	8	...	8
Do. A Potu	1	...	1	...	...	...	...	...	...	...	1	1
Delusional Insanity	3	...	3	1	...	1	2	...	2	6	1	7
Dementia, Primary	2	2	4	3	...	3	...	1	1	4	3	7
Do. Secondary	...	...	...	...	...	...	42	4	46	149	45	194
Do. Senile	...	1	1	...	...	...	...	1	1	...	...	...
Do. Organic	2	3	5	...	...	...	...	...	...	5	...	5
Convalescent	1	1	2	1	1	2	...	...	...	4	4	8
TOTAL	182	46	228	79	14	93	102	13	115	262	71	333

TABLE XII.

LUNATIC ASYLUM.

Showing Occupation of Admissions.

Occupation.	Male.	Female.	Total.	Occupation.	Male.	Female.	Total.
Accountant ...	1	...	1	<i>Brought forward ...</i>	85	11	96
Amah ...	...	1	1	Medical Officer ...	1	...	1
Attap builder ...	1	...	1	Merchant ...	1	...	1
Ayah ...	...	1	1	Peas seller ...	1	...	1
Barber ...	1	...	1	Pig slaughterer ...	1	...	1
Blacksmith ...	2	...	2	Planter, fruit ..	4	...	4
Boatman ...	1	...	1	„ betel leaf ...	1	...	1
Brick layer ...	1	...	1	„ padi ...	1	...	1
Brick maker ...	1	...	1	„ rubber ...	1	...	1
Cabinet maker ...	1	...	1	„ tapioca ...	2	...	2
Cake maker ...	1	...	1	„ vegetable ...	6	...	6
Cake seller ...	2	...	2	Policeman ...	1	...	1
Carpenter ...	2	...	2	Potter ...	...	1	1
Cart driver ...	1	...	1	Prostitute ...	...	3	3
Chinese drug vendor ...	1	...	1	Rattan splitter ...	1	...	1
Cigar maker ...	1	...	1	Rubber collector ...	1	...	1
Clerk ...	5	...	5	Sailor ...	1	...	1
Cloth dyer ...	1	...	1	Salesman ...	1	...	1
Coffee seller ...	1	...	1	Scholar ...	1	...	1
Cook ...	3	...	3	Seamstress ...	...	1	1
Coolie, General ...	31	...	31	Seller of iced drinks ...	1	...	1
„ 'Rikisha ...	8	...	8	Ship's Surgeon ...	1	...	1
Cowherd ...	1	...	1	Shoemaker ...	2	...	2
Dealer in bullocks ...	1	...	1	Shop Assistant ...	1	...	1
Diver ...	1	...	1	Shop-keeper, vegetables ...	...	1	1
Estate coolie ...	1	...	1	Stall holder ...	1	...	1
„ Overseer ...	1	...	1	Stoker ...	1	...	1
Eating-house keeper ...	1	...	1	Surveyor ...	1	...	1
Engineer ...	1	...	1	Sweeper ...	1	...	1
Fireman ...	1	...	1	Syce ...	1	...	1
Fisherman ...	1	...	1	Tailors ...	3	...	3
Fitter ...	1	...	1	Tally-clerks ...	2	...	2
Gardener ...	2	...	2	Tin miner ...	1	...	1
Goldsmith ...	2	...	2	Tin smith ...	2	...	2
Grass-cutter ...	1	...	1	Tongkang coolie ...	1	...	1
Ground-nut seller ...	1	...	1	Unknown ...	49	29	78
Hawker ...	2	...	2	Watchman ...	1	...	1
House-wife ...	...	9	9	Watch maker ...	1	...	1
Lunatic Asylum Attendant ...	1	...	1				
Mason ...	2	...	2				
<i>Carried forward ...</i>	85	11	96	TOTAL ...	182	46	228

Beri-beri Hospital.

REPORT BY Dr. H. J. GIBBS, *Physician-in-charge*.

On the 31st December, 1909, there remained 119 patients, 318 patients were admitted in 1910 making the total treated for the year 437 as compared with 383 for the previous year.

The average daily number resident was 114·53.

Of the Police Constables under treatment in 1910, one remained over from the previous year, 6 were admitted, 4 were discharged, 1 absconded and 2 remained on the 31st December, 1910.

Of the 437 treated in 1910, 217 were discharged as recovered, 68 as improved and 2 as not improved, 8 absconded, 28 died and 114 remained on the 31st December, 1910.

Of the 28 who died 5 succumbed to Beri-beri, 7 to Pulmonary Tuberculosis, 1 to Enteric Fever, 5 to Dysentery, 1 to Enteritis, 2 to Valvular Disease of the Heart, 1 to Pernicious Malaria, 3 to Pneumonia, 1 to Septicæmia and 2 to Tubercular Enteritis.

Of the 5 deaths from Beri-beri 1 died within 2 hours, 1 in 24 hours, 1 in 8 days, 1 in 19 days and 1 in 107 days of admission.

Seven of the 28 died within a week of admission. The percentage of deaths from beri-beri to total treated amounted to 1·14, and that from all causes to total treated was 6·41.

Bowel complaints, *e.g.*, dysentery, colitis, entero-colitis and malaria have been rife throughout the year.

There were thus treated 57 cases of Dysentery, 18 of Colitis, 13 of Entero-colitis, and 37 cases of Malaria.

Three cases of Enteric Fever occurred amongst the patients of whom one died.

A case of discrete Small-pox occurred in a patient with a residence of a couple of months. He was immediately transferred to the quarantine camp, the buildings disinfected, all the inmates vaccinated and the neighbouring village, in which there had been a few cases of the disease, placed out of bounds.

This had the desired effect of preventing the occurrence of any further cases.

No cases of cholera occurred.

The subordinate staff worked satisfactorily.

I assumed charge of the hospital from Dr. ELLIS on the 1st January, 1910.

APPENDIX B.

Penang.

REPORT BY DR. R. DANE, *Senior Medical Officer*.

"Settlement" includes Penang, Province Wellesley and Dindings.

1. The estimated population of the Settlement was 262,266 (Penang Island 134,343; Province Wellesley 123,289; Dindings 4,634). It is certain that the figure for the Dindings is much too small.

2. *Birth-rate*.—The births in the Settlement during 1910, compared with 1909, show an increase of 122 being 6,877 (3,558 males and 3,319 females). Of this number 3,025 (1,614 males and 1,411 females) were registered in Penang Island alone. With an estimated population of 262,266, this shows a birth-rate of 26·22 per mille, compared with 25·93 per mille in 1909 and 28·78 per mille in 1908.

3. *Death-rate*.—The number of deaths recorded was 9,518 (6,304 males and 3,214 females) as compared with 9,061 deaths in 1909 and 9,616 in 1908. The death-rate for the year for the Settlement on the estimated population given above was 36·29, compared with 34·78 for 1909 and 37·12 for 1908. The death-rate for Penang Island alone was 38·10, against 37·44 in 1909 and 43·12 in 1908.

4. *Public Health*.—The general health of the Settlement, judging by the figures given above, cannot be regarded as satisfactory.

5. The following table gives the chief causes of deaths as registered in Penang Island during 1910 and the previous six years:—

Principal Causes of Deaths, Penang Island only.

Causes of Death.	1904.	1905.	1906.	1907.	1908.	1909.	1910.
Phthisis	604	626	674	641	917	901	738
Malaria	344	661	677	526	820	712	754
Beri-beri	307	291	282	212	534	399	367
Fever not specified	1,111	608	500	453	444	432	418
Dysentery	161	222	394	289	314	280	289
Convulsions	300	445	343	382	280	313	410
Tetanus (Infantile)	...	...	44	52	137	46	7
Diarrhœa	377	323	251	211	133	65	121

The causes of death are reliable in such a small percentage that any attempt to draw any inference from the above figures is futile.

6. The deaths from Beri-beri as compared with 1909 show a decrease of 32. Parboiled rice is exclusively used in all Government institutions and in them no fresh case occurred (see my report on Penang Prison). In the Municipal area the deaths from Beri-beri show a decrease from 357 in 1909 to 334 in 1910.

7. Malarial Fever shows an increase from 712 deaths in 1909 to 754 in 1910. In Municipal limits there is an increase from 654 in 1909 to 722 in 1910.

8. *Infantile Mortality.*—Two thousand three hundred and eighty-nine occurred in children under 5 years of age, of which 946 were infants not more than three months' old.

9. The chart accompanying this report represents the number of deaths each week, compared with the corresponding number of deaths in 1909. The rainfall for each week is also shown.

10. *General Diseases.*—The admissions to the various hospitals in Penang and the Dindings were 7,322, against 6,870 in 1909 and 7,179 in 1908. These admissions, compared with 1909, show for Malaria, including Malaria Cachexia, an increase of 96; for Beri-beri an increase of 10; for Diarrhœa an increase of 62; Venereal Disease a decrease of 82; Phthisis a decrease of 41; Dysentery a decrease of 48.

11. The Out-door Dispensaries at Penang, Balik Pulau and Lumut show a total treated of 9,611, which is an increase of 573 as compared with 1909.

12. The Principal Civil Medical Officer visited this Settlement in May and October on inspection duty.

13. *Small-pox.*—An outbreak began in Penang about July and continued to the end of the year. Seven hundred and ninety-four cases were reported or discovered within Municipal limits with 213 deaths; 100 cases occurred in the Country District with 25 deaths. Within the Municipal area the work of disinfection and isolation of small-pox cases, houses and contacts, except the cases of small-pox and contacts sent to the Quarantine Camp, Jelutong, was done by the Municipal Health Department. The rest was done by the Government Medical Department. Of the 894 cases of small-pox, 589 cases were treated in the Quarantine Camp, Jelutong; the rest were treated either in the Chinese Quarantine Camp at Batu Lanchang, in temporary camps built by the people, in private houses, or in a temporary hospital built by Government at Balik Pulau. Details as to the effect of previous vaccination are given in the report on the Quarantine Camp, Jelutong. Further details will form the subject of a special report.

Quarantine Camp.

REPORT BY DR. R. DANE, *Senior Medical Officer.*

1. There were no patients left at the beginning of the year.
2. During the year there were 539 admissions for important infectious diseases. See Table *A* and 50 admissions for other diseases.
Besides the admissions for diseases 783 contacts were admitted.
3. Nationalities affected will be seen in Table *B*.
4. Deaths will be seen in Table *C*.

5. *Buildings.*—Two new wardlets, one kitchen and one bathroom were built inside the fence; and a new ward, with necessary outhouses, and its own fence were added outside, as the part usually in use for contacts had to be given over to patients. Two wards, the Dressers' quarters, 2 wardlets, the kitchen, etc., of the 2nd class ward were all re-attapped. In two galvanised iron wardlets the roof was covered with attap and the sides replaced by "kanjang" because the patients complained of the heat. Except the building of the new ward, etc., outside the camp fence all the above work was done during the time the camp was full, by men under our own supervision and control.

6. The following table and the subsequent analysis of the contacts show the effects of vaccination on small-pox; preventing it, if adequately done, and mitigating it even if inadequately done.

7. An analysis of the cases of small-pox, either discharged, cured or died, shows:—

Vaccination Marks.	Number of Cases.	Deaths.	Mortality.
None	162	67	41.36%
1	30	6	20.00%
2	40	3	7.50%
3	49	2	4.08%
More than 3	18	0	None.

8. The value of vaccination in preventing and mitigating small-pox is shown not merely by the above table but also by the history of the 783 contacts who were admitted with the above patients. These 783 contacts each passed from 3 to 10 weeks in the camp. Nearly all of them were in close contact with all the cases of small-pox and the rest in close proximity and frequent indirect communication with the cases. Only one contact, a girl of 22 years, managed to avoid the vaccination performed on all contacts (except those well pitted by small-pox) directly on admission to the camp. She had two small faint marks of vaccination performed in infancy. She got small-pox and died. While another contact, a child 9 years old, vaccinated in infancy, was at first believed, owing to the statements of her friends, to be much younger and to have been quite recently vaccinated. The fraud was discovered 4 days after admission. She was promptly revaccinated but small-pox developed in a few days. The attack was a very mild one and she recovered. Of the 783 contacts, 176 had such clear marks of previous small-pox that they were not revaccinated. Two hundred and sixty-three had marks of previous vaccination but were revaccinated. Three hundred and forty-three were vaccinated for the first time on arrival in camp. Not one of the 783 got small-pox, except the two referred to above.

TABLE A.

QUARANTINE CAMP, JELUTONG.

Table showing monthly admission for the important infectious diseases.

MONTHS.				Small-pox Admissions.	Chicken-pox Admissions.	Cholera Admissions.
January	...	...	...	...	1	...
February	...	...	...	...	10	...
March	...	...	...	...	6	...
April	...	...	...	...	6	...
May	...	...	...	...	...	1
June	...	...	...	3	1	...
July	...	...	...	13	1	...
August	...	...	...	48	12	...
September	...	...	...	92	2	...
October	...	...	...	161	4	...
November	...	...	...	110	2	...
December	...	...	...	48	18	...
Total ...				475	63	1

TABLE B.

QUARANTINE CAMP, JELUTONG.

*Table showing Admissions Classified for Nationality and Disease,
for the Year 1910.*

NATIONALITIES.				Small-pox.	Chicken-pox.	Cholera.	Measles.
Europeans	...	...	...	1	...	...	2
Eurasians	...	...	...	14	5	...	...
Chinese	...	...	...	46	2	...	5
Siamese	...	...	...	1	...	...	...
Malays	...	...	...	186	11	...	3
Islam Klings	...	...	...	43	2	...	2
Hindus	...	...	...	165	41	1	6
Singhalese	...	...	...	4	...	...	...
Boyanese	...	...	...	4	...	...	...
Javanese	...	...	...	3	2	...	...
Sikhs	...	...	...	1	...	...	...
Others	...	...	...	7	...	...	...
Total ...				475	63	1	18

TABLE C.

QUARANTINE CAMP JELUTONG.

Table showing Admissions, Discharges, etc., for 1910 Classified by Nationalities.

Nationalities.	Remained.	Admitted.	Total.	Discharged.	Transferred.	Absconded.	Died.	Remaining.
Europeans	3	3	3	...	...	...	...
Eurasians	24	24	20	1	...	2	1
Tamils	232	232	156	...	...	44	32
Islam Klings	50	50	31	...	...	12	7
Chinese	60	60	40	...	1	12	7
Malays	198	198	134	...	...	51	13
Javanese	5	5	3	...	...	2	...
Boyanese	4	4	4	...	...	...	...
Singhalese	4	4	3	...	...	1	...
Sikh	1	1	1	...	...	...	...
Others	8	8	7	...	...	...	1
Total	589	589	402	1	1	124	61

General Hospital

REPORT BY Dr. J. S. WEBSTER, *Medical Officer.*

During the year 1910, there have been 271 patients admitted to the European wards and 1,227 to the native wards as compared with 192 and 1,170, respectively, during the previous year. The mortality, excluding deaths within 24 hours of admission, was 2.95 for the Europeans, etc., 4.22 for the natives and native police as compared with 4.25 for the Europeans, etc., and 5.81 for the natives, etc., during the year 1909.

The principal diseases treated were:—

Malaria 279 with 9 deaths.

Tuberculosis (including Phthisis) 25 with 6 deaths.

Dysentery 72 with 15 deaths.

Venereal 53 with 3 deaths.

Beri-beri 25 cases with 5 deaths.

2. *Beri beri*.—During the year 25 cases were treated as compared with 15 in the previous year. All the patients in the hospital were fed upon parboiled rice and no cases of this disease occurred amongst patients admitted to hospital for other diseases.

3. *Operations*.—One hundred and eight operations were performed during the year as compared with 163 in 1909 and 98 in 1908. The many changes in the Medical Staff may account for the falling off in the number.

4. *Building*.—The new wing to the Nurses' quarters the building of which was commenced in 1909 was completed in March, 1910, and has been occupied since then.
- A new operation theatre, which was badly needed, was commenced in September and finished in December, 1910. It is, however, at present only connected to the European ward.
5. *Staff*.—There have been many changes in the staff, both amongst the Medical Officers and also in the Nursing Staff.

Table showing the Admissions, Daily Average and Percentage of Deaths, in the General Hospital, Penang.

	Remained.	Admitted.	Total Treated.	Discharged.	Transferred.	Absconded.	Died.	Remaining.	Average daily sick.	Percentage of Deaths to total treated.	Died in 24 hours.	Percentage of deaths to total treated excluding those dying within 48 Hours of Admission.
Europeans ...	5	271	276	251	2	3	13	7	8.75	4.71	5	2.95
Natives ...	33	923	956	793	47	21	66	29	34.07	6.90	17	4.22
Native Police ...	10	304	314	300	...	2	4	8	10.05	1.27	...	
Total ...	48	1,498	1,546	1,344	49	26	83	44	52.87	5.36	22	4.00

Prison Hospital.

REPORT BY DR. R. DANE, Senior Medical Officer.

1. That the sanitary condition of the Prison is good, and the health of the prisoners well looked after is shown by the paragraphs 3 and 4.
2. *Figures*.—There were remaining in hospital at the end of 1909 13 patients. Four hundred and ninety-three were admitted during the year. The average daily sick was 22.65. It is as well to point out that there is much diversity of opinion and practice regarding the entry into the Prison Hospital nominal register of prisoners who are sent into the wards for observation and trivial complaints. In a Prison this is a very large number, because malingering is common. This difference in practice renders incomparable the average daily sick of the different prisons and even of the same prison for different years. The disease which caused most admissions were Diarrhœa 96, Dysentery 44, Pyrexia 42, Phthisis 29.

A table to show distribution of morbidity and mortality amongst the different classes of prisoners.

	Criminal.	Civil.	Vagrant.
Total population of Prison ...	2,039	1,502	222
Average daily population ...	255.79	29.46	35.62
Total treated in Hospital ...	381	11	114
Deaths ...	11	1	25

3. *Morbidity*.—An analysis of the medical records, taken at random, of 238 prisoners :—
- This shows that in 79.1 per cent the health and physical condition improved, in 11.7 per cent the health and physical condition remained the same.
- In 9.2 per cent there was some apparent impairment of health.

Of the 22 that gave this 9·2 per cent :—

Eight got acute illness but were convalescent and picking up weight when released.
Eight lost weight but no cause discovered.

Six lost weight. They were very short-sentence prisoners, on *D* diet all the time.

This analysis does not include any records of prisoners who died. They are all considered in the next paragraph.

4. *Mortality*.—While 37 of the prisoners died the medical records show that 33 certainly came in with their fatal disease. Of the 4 remaining there are 3 about whom I am not certain as to the disease existing on arrival in jail, 1 of Chronic Malaria, 1 of Phthisis, and another prisoner who eventually died of Chronic Diarrhœa. This last was a most troublesome prisoner who after having blinded himself in one eye by rubbing mortar into it was frequently in trouble and when brought to hospital did all he could to keep himself ill. My experience in Singapore shows such prisoners are far from uncommon. One patient almost certainly developed acute phthisis in the jail. Considering the facts mentioned in my report on the Singapore Jail for 1909, in paragraph 5 it speaks well for the enforcement of sanitary rules by the staff that so few prisoners acquire phthisis in the jail.

Of these 37 :—

15 were sent straight to hospital on arrival in jail.

14 were put on light labour on arrival in jail.

5 were put on much reduced labour on arrival in jail.

1 was put on half labour on arrival in jail.

1 was put on nearly full labour on arrival in jail.

The causes of death were Phthisis 10; Dysentery 7; Diarrhœa 4; Chronic Malaria 4; Softening Brain 2; Apoplexy (Syphilis) 1; Anæmia 2; Suppurative Peritonitis 2 (one due to Tubercular Enteritis; the other due to a Subphrenic Abscess). The following diseases each account for one death:—Oral Sepsis causing Septic Pneumonia; Chronic Bronchitis with Fatty heart; Abscess lung; Atrophic Cirrhosis Liver; Gastritis.

5. *Beri-beri*.—A very doubtful case of periphoral neuritis occurred which after much consideration I can only regard as a relapse of an attack of beri-beri years before arrival in jail. After the attack he led a life of privation and heavy toil and when committed to jail was suffering from chronic lung disease and mental decay and was very emaciated.

6. *Enteric Fever*.—No case occurred.

7. *Vaccination*.—In consequence of the small-pox I had to have all the prisoners vaccinated. 1,067 were done.

8. *Staff*.—I took charge of the jail a few days after arriving in Penang in March. About September, I had to resign charge on account of the small-pox in Penang.

Table showing work done.

Nation.	1909.					1910.					Remarks.
	Remained.	Admitted.	Total.	Died.	Remaining.	Remained.	Admitted.	Total.	Died.	Remaining.	
Europeans ...	...	...	...	...	...	...	...	...	...	...
Natives ...	23	349	372	20	13	13	493	506	37	28	
Total ...	23	349	372	20	13	13	493	506	37	28	

TABLE A.

Nationality Return of the Prison Hospital, Penang, for 1910.

Nationalities.			Remained.	Admitted.	Total.	Discharged.	Transferred.	Absconded.	Died.	Remaining.	Remarks.
Chinese	...	...	8	333	341	293	...	...	27	21	
Tamils	...	...	4	90	94	87	...	...	6	1	
Islam Klings	...	...	1	7	8	2	...	...	2	4	
Malays	...	...	...	45	45	41	...	...	2	2	
Europeans	...	...	...	2	2	2	...	...	...	...
Eurasians	...	...	...	1	1	1	...	...	...	...
Javanese	...	...	...	9	9	9	...	...	...	...
Bengalis	...	...	...	4	4	4	...	...	...	...
Siamese	...	...	...	1	1	1	...	...	...	...
Burmese	...	...	...	1	1	1	...	...	...	...
Total			13	493	506	441	...	...	37	28	

TABLE B.

Return of Venereal Diseases Admitted to the Prison Hospital, Penang, for the Year 1910.

DISEASES.			ADMISSIONS.		DEATHS.		REMARKS.
			Male.	Female.	Male.	Female.	
Gonorrhœa	5	} Prostitutes Nil.
Gonorrhœal Arthritis	...	...	3	...	...	...
Primary Syphilis	...	...	Nil.	...	...	...
Secondary Syphilis	...	...	8	...	...	...
Bubo	...	...	7	...	...	...

District Hospital.

REPORT BY DR. E. A. SMITH, *Medical Officer*.

1. *Buildings*.—The Malaria Ward has been supplied with mosquito curtains; and the Beri-beri Ward with a rope running down the centre.

2. *Grounds*.—The Hospital grounds have been greatly improved. Work done by the hospital servants.

3. *Staff*.—There have been considerable changes amongst the staff during the year. At certain periods we have been very short-handed; on these occasions and also during the year, the work done by Steward LIM TAI LEF, Dressers CARMAGAM, MAYANDY PILLAY and PAKIAM has been most excellent.

4. *Work Done*.—On the 1st January, 1910, there were 315 cases under treatment. During the year 3,435 were admitted (all males) including 57 in the European ward; making a total treated of 3,750.

5. The average daily number of sick was 289.73. There were 527 deaths. The percentage of deaths to total treated, 14.05 as compared with 14.08 for the previous year, 15.25 in 1908, 15.36 in 1907, of these 22 died within 24 hours of admission.

6. *Phthisis*.—Total treated 187 with 111 deaths giving a percentage of 59.35, last year 261 with 129 deaths, the percentage being 49.42. Since I came to the District Hospital in March, I have made a bacteriological examination of the sputum of all cases who presented any signs of respiratory disease, of these I found 146 cases suffering from phthisis.

7. *Venereal Disease* accounted for 620 admissions, against 582 during the previous year.

8. *Malarial Fevers* have been slightly less this year than last; thus there were 428 treated with 50 deaths (mortality 11.68). In 1909, 460 treated with 39 deaths (mortality 8.47). In 1908, 495 with 52 deaths (mortality 10.54). In 1907, 298 with 31 deaths (mortality 10.47). In every case since I came in March, the diagnosis was made on the results of a blood examination, and every patient complaining of fever in the course of treatment for other disease also had his blood examined. This was also done in 1909, see the report for that year.

9. *Beri-beri* accounted for 154 admissions with 38 deaths (mortality 20.87), as contrasted with 153 admissions and 26 deaths (mortality 16.99), in 1909; no cases occurred amongst inmates in the other wards of the hospital, only 3 Tamils were admitted for this disease, the rest being Chinese only. Parboiled rice was used throughout the year.

10. *Dysentery*.—Two hundred and two cases were treated with 111 deaths (mortality 54.95). This high mortality is accounted for by the fact that cases for the most part are brought in from outside in a hopeless condition.

11. *Diarrhœa*.—Acute and chronic accounted for 129 cases with 49 deaths (mortality 37.98), and in 1908, 115 cases with 35 deaths (mortality 30.43), and in 1908, 239 cases with 86 deaths (mortality 35.98).

12. Table A attached shows the admissions, deaths, etc., for the chief diseases treated, B and C for Beri-beri and Venereal Diseases, respectively, together with a special return required by the Principal Civil Medical Officer and a return of admissions, discharges, deaths, etc.

TABLE A.

Table showing Admissions and Deaths from the Principal Diseases in the District Hospital, Penang, for the past Four Years.

DISEASES.	1907.			1908.			1909.			1910.		
	Cases Treated.	Died.	Percentage.	Cases Treated.	Died.	Percentage.	Cases Treated.	Died.	Percentage.	Cases Treated.	Died.	Percentage.
Malarial Fevers	298	31	10'04	495	52	10'54	460	39	8'47	428	50	11'68
Beri-beri	164	33	20'01	260	45	17'30	200	26	13'00	182	38	20'87
Dysentery	180	98	52'02	230	98	42'60	295	122	41'35	202	111	54'95
Diarrhoea	96	40	41'06	239	86	35'98	115	35	30'43	129	49	37'98
Phthisis	172	102	59'05	215	116	53'95	261	129	49'42	187	111	59'35
Anæmia	178	37	20'08	356	102	28'65	304	66	21'71	179	41	22'90
Venereal Diseases	688	18	2'76	691	26	3'76	582	15	2'57	620	3	48

TABLE B.

Return showing the Admissions and Deaths at the District Hospital, Penang, for Beri-beri for the Year 1910.

NATIONALITY.	January.		February.		March.		April.		May.		June.		July.		August.		Septem-ber.		October.		Novem-ber.		Decem-ber.		Total.	
	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.
Chinese	7	3	7	...	8	...	19	7	13	2	12	2	6	3	15	3	9	2	18	4	18	4	19	7	151	37
Tamils	...	...	1	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	3	1	
TOTAL	7	3	8	...	8	...	20	7	13	3	12	2	6	3	15	3	9	2	19	4	18	4	19	7	154	38
Rainfall	2.57	5.34	9.28	4.39	11.08	7.27	2.98	13.10	5.39	17.28	20.22	4.24	103.14													

TABLE C.

*Return of Venereal Diseases admitted to the District Hospital, Penang,
for the Year 1910.*

DISEASES.	ADMISSIONS.		DEATHS.		REMARKS.
	Males.		Females.		
Primary Syphilis	13	...	
Secondary Do.	326	2	
Tertiary Do.	12	1	
Gonorrhœa	50	...	
Gonorrhœal Ophthalmia	19	...	
Do. Arthritis	5	...	
Do. Iritis	3	...	
Soft chancre or chancroid	129	...	
Bubo	63	...	

*Special Return as required by the Principal Civil Medical Officer,
Straits Settlements.*

District Hospital.	1909.					1910.					Remarks.
	Remained.	Admitted.	Total.	Died.	Remaining.	Remained.	Admitted.	Total.	Died.	Remaining.	
Europeans ...	3	52	55	2	2	2	57	59	...	2	
Natives ...	397	4,135	4,532	644	313	313	3,378	3,691	527	306	
Total ...	400	4,187	4,587	646	315	315	3,435	3,750	527	308	

Nationality Return of the District Hospital, Penang, for the Year ending 1910.

Nationality.			Remained.	Admitted.	Total.	Discharged.	Transferred.	Absconded.	Died.	Remaining.
Europeans	...	...	1	16	17	17	...	...	...	...
Eurasians	...	...	1	37	38	35	1	...	...	2
Chinese	...	...	242	2,153	2,395	1,559	36	250	349	201
Tamils	...	...	59	1,072	1,131	781	15	86	159	90
Islam Klings	...	...	7	104	111	81	2	6	12	10
Bengalis	...	...	1	11	12	9	...	1	1	1
Javanese	...	...	1	4	5	4	...	...	1	...
Japanese	...	...	...	3	3	3	...	...	...	...
Siamese	...	...	...	1	1	1	...	...	...	...
Malays	...	...	3	19	22	13	...	1	4	4
Sikhs	...	...	...	2	2	1	...	...	1	...
Manilla	...	...	...	1	1	1	...	...	...	...
Cabulese	...	...	...	1	1	1	...	...	...	...
Ceylonese	...	...	...	11	11	11	...	...	...	...
Total			315	3,435	3,750	2,517	54	344	527	308

Eye Ward, District Hospital, Penang.

REPORT BY DR. J. KIRK, *Honorary Visiting Ophthalmic Surgeon.*

During the year 1910, there were 177 cases of eye disease treated in this department. One hundred and thirty-six of these being in-patients and 41 out-patients. These returns as in former years do not include a large number of cases which are sent from the general wards of the hospital for advice and treatment.

The cases may be classified as follows:—

	Cases.
Acute Simple Conjunctivitis	7
Chronic „ „	2
Trachoma	24
Pyterygium	1
Gonorrhoeal Ophthalmia	19
Acute General Ophthalmia	3
Corneal Opacities	16
Corneal Ulceration	20
Wounds of Cornea and Iris	7

					Cases.
					—
Keratomalacia	...	...	...	...	1
Syphilitic Iritis	...	...	...	...	15
Gonorrhœal Iritis	...	...	...	...	3
Unclassed Iritis	...	...	...	...	4
Cataract (single)	...	...	...	...	17
Cataract (double)	...	...	...	...	7
Optic Atrophy	...	...	...	...	16
Detachment of Retina	...	...	...	...	1
Entropion	...	...	...	...	2
Ectropion	...	...	...	...	1
Glaucoma	...	...	...	...	1
Contraction of Eyelids	...	...	...	...	2
Pigmentation of Conjunctiva	...	...	...	...	1

The operations performed during the year were as follows:—

					Cases.
					—
Iridectomy	...	...	...	...	2
Needling Secondary Cataract	...	...	...	...	5
Extraction of Senile Cataract	...	...	...	...	23
Extraction of Juvenile	...	...	...	...	1
Operation for Entropion	...	...	...	...	2
Operation for contracted eyelids	...	...	...	...	2
Operation for Pyterygium	...	...	...	...	1
Incision of Lachrymal duct	...	...	...	...	3
Operation for Ectropion	...	...	...	...	1
Scraping Trachomatous lids	...	...	...	...	3
Enucleation of eye-ball	...	...	...	...	2
Removal of foreign body	...	...	...	...	1

I have during the past year paid a certain amount of attention to the subject of Trachoma and as I have mentioned already in my previous reports I consider this disease to be one of the commonest and most wide-spread of all the eye affections met with in this part of the world and the one most serious in its effects. The amount of eye maiming and blindness caused by its ravages are not generally realized. It is a disease as far as I have seen of towns and not of the country and is more common among shopkeepers, tradesmen and artisans than among agriculturalists and out-door workers. This is the natural result of bad hygiene and insanitary surroundings. The early typical granulation stage is more commonly seen in children and it is possible that the initial infection in many adult cases dates from childhood. The disease in its latter forms is not so easily recognized and is often overlooked. Pathognomic symptoms, however, are (i) the typical pannus infiltration and vascularisation of the cornea; (ii) hypertrophy of the retrotarsal fold and subsequent fibrous contraction of the conjunctival tissue in this neighbourhood. In no other eye disease is there any similar degeneration. I have in the past year also made a good many bacteriological examinations of the conjunctival sac in this condition. I find that in the advanced and complicated cases of Trachoma; which are the great majority of the cases I have to deal with in this department, the commonest organism found is the Morax Axenfeld bacillus. This is very often found in pure culture but frequently there is a mixed infection. Morax Axenfeld Koch Weeks, Staphylococci and occasionally Gonococci may be found in the one sac. Such a mixed infection is natural as you have damaged tissues to deal with which are a fertile soil for microbic development. None of these organisms have I believe any causal relationship to the original disease though they undoubtedly cause complications. One indication of importance in regard to the frequent presence of the Morax Axenfeld bacillus is that in Trachoma as in Angular Conjunctivitis the zinc and copper salts are much more affective in treatment than the silver ones. Another important

point is that one must not diagnose a Morax Axenfeld or a Koch Weeks conjunctivitis from the mere discovery of these organisms in conjunctival discharge for they are often present in Trachoma as a mixed infection, hence a serious fallacy may arise in diagnosis.

As regards the general work of the ward, it has been on the whole satisfactory and the class of patient has been one which we desire to get hold of but still there is a dishearteningly large number of cases which appear in an absolutely incurable condition.

Dresser CARMAGAN has been attached to the ward during the year and does his work in a most efficient and satisfactory manner and I should like to express my indebtedness to him.

Baik Pulau Hospital.

REPORT BY DR. R. DANE, *Senior Medical Officer.*

The following works were executed during the year:—Re-roofing Dressers' quarters and re-attaping Female Ward, also other petty repairs were attended to. Grounds were well kept throughout the year.

Staff.—Assistant Surgeon SARDESAI was in charge of the hospital up to December 12th; his place being taken by Assistant Surgeon BATEMAN to the end of the year. Dresser J. ALCAIN was transferred to District Hospital, Penang, on the 5th December, being relieved by Hospital Assistant P. MURUGASU from the Prison Hospital to the end of the year.

Work done.—During the year 431 patients were admitted. This with 33 remaining from the previous year brings the total treated up to 464 or 118 more than the previous year. The daily average sick was males 33.64 and females .39 or 4.95 less than the previous year. The principal diseases treated were Ulcers 132, Malarial Fever 106, Anæmia 26, Sub-acute Rheumatism 23, Diarrhœa 13, Syphilis Tertiary 17, Syphilis Secondary 11, Ulcer penis 15.

There were 25 deaths during the year making a mortality of 5.38 to those treated. The causes of deaths were Beri-beri 1, Dysentery 2, Malarial Fever 2, Malarial Cachexia 1, Pneumonia 1, Syphilis Secondary 1, Anæmia 5, Valvular Disease Heart Mitral 2, Phthisis 4, Stomatitis 1, Diarrhœa 2, Cellulitis 1, and Ulcer 2.

Health.—Thirty-two cases of Small-pox were reported:—

At Sungai Mati	...	...	...	...	1
„ Sungai Burong	...	...	...	...	13
„ Kampong Trang	...	...	...	...	3
„ Pulau Betong Kampong	...	...	...	...	2
„ Permatang Ginting	...	...	...	...	1
„ Ginting	...	...	...	...	1
„ Titi Sarong	...	...	...	...	1
„ Permatang Tenga	...	...	...	...	2
„ Pondok Opeh	...	...	...	...	2
„ Permatang...	...	...	...	...	1
„ Kongsu	...	...	...	...	2
„ Tulok Kumbar	...	...	...	...	2
„ Paya Ginting	...	...	...	...	1
Total					32

Two temporary attap sheds for small-pox were erected in October, $\frac{1}{5}$ th mile from the Ginting Village—24 cases were admitted and 30 contacts—1 Chinaman died from confluent small-pox. Remaining in the small-pox shed, end of December, 1910, 3 cases and 5 contacts.

Vaccination and re-vaccination were vigorously carried out in the Balik Pulau District. The Senior Vaccinator SAMUEL being sent to live there for four weeks.

Nationality Return of the District Hospital, Balik Pulau, for the Year 1910.

Nationalities.	Remained.		Admitted.		Total.		Discharged.		Transferred.		Absconded.		Died.		Remaining.		Remarks.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Europeans	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Eurasians	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chinese	23	...	275	2	298	2	234	1	5	...	12	...	20	...	25	1	
Tamils	8	...	115	2	123	2	115	2	1	...	2	...	4	...	3	...	
Malays	2	...	37	...	39	...	36	...	...	...	...	...	1	...	2	...	
Total	33	...	427	4	460	4	385	3	6	...	14	...	25	...	30	1	

Return of Nationalities, Balik Pulau Hospital, during the Years 1909 and 1910.

Hospital.	Nationality.	1909.								1910.								Remarks.
		Remained.	Admitted.	Total.	Discharged.	Transferred.	Absconded.	Died.	Remaining.	Remained.	Admitted.	Total.	Discharged.	Transferred.	Absconded.	Died.	Remaining.	
District Hospital	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Balik Pulau	...	27	319	346	257	3	20	33	33	33	431	464	388	6	14	25	31	
	Europeans	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Natives	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

District Hospital, Balik Pulau, for the year 1910:—

<i>Admissions 1910.</i>	<i>Venereal Diseases.</i>	<i>No of Prostitutes.</i>
—	—	—
43 ¹	49	Nil.

Lumut Hospital, Dindings.REPORT BY DR. R. DANE, *Senior Medical Officer.*

Buildings.—The annual whitewashing and paintings of wards and out-houses were duly performed and petty repairs of the wards were also attended to.

Work Done.—Three hundred and five cases were admitted during the year, which, with 15 remaining from the previous year, makes a total of 320 cases treated. This is 24 more than the previous year. The principal diseases treated were in their order of frequency:—General Diseases 152, of which 104 were of malarial fever in its various forms, Diseases of the skin 67, Injuries 33, Diseases of the Digestive system 22. The average daily sick was 11·4.

Mortality.—There were 25 deaths during the year, of this number 9 died within 48 hours of admission. The causes of deaths in the 25 fatal cases are as follows:—Diarrhœa 7, Dysentery 3, Anæmia 3, Phthisis 3, Chronic Malaria 2, Beri-beri 1, Malaria 1, Phagedæna 1, Septicæmia 1, Small-pox 1, Starvation 1, and Fracture of Spine 1.

The percentage of deaths to total treated was 7·8.

The admissions and deaths were made up as follows:—

	<i>Admissions.</i>	<i>Deaths.</i>
	—	—
District of Dindings ...	151	8
Sitiawan, Lower Perak ...	169	17
	—	—
Total ...	320	25
	—	—

Health.—Six cases of small-pox occurred in the District.

Police.—The health of the Malay Police contingent has been good. There were 17 admissions to the hospital and 44 were treated as out-patients. No death occurred among them.

The general health of the population in Lumut has been satisfactory.

Mosquito.—I spent some two hours on two occasions in looking for *Anopheles* larvæ. I was surprised to find not a single one and still more surprised to find so few *Culex* larvæ. Those I did find were in puddles under houses.

Leper Asylum, Pulau Jerejak.REPORT BY DR. J. C. C. FORD, *Medical Officer-in-Charge.*

1. *Personnel.*—Medical Officer.—I was in charge during the year, with Mr. JAS. R. BRUCE as Resident Assistant Surgeon. Colonial Dresser PHANG CHOCK SENG died of Pulmonary Phthisis and was replaced by Dresser YONG VOON CHOY. Dressers AROKIASWAMY, V. SANTIAGO and LOO CHIN TEE were attached to the Asylum throughout the year.

Perak Dressers M. AYADURAI, J. E. HYPO, and P. DE CASTRO were relieved by M. PONNIAH, S. ARULAMPALAM and E. L. DORI, respectively, and M. PONNIAH was, in December, relieved by S. SAMUEL.

<i>Statistics.</i> —There remained on 31st Decem-				{ Colonial 240 }	420	
ber, 1909	...	...	...	{ Perak 180 }	
Admitted during 1910	...	...	...	{ Colonial 97 }	191
				{ Perak 94 }		
				<hr/>		
				Total inmates	...	611
				<hr/>		
Discharged (Repatriated to India)	...			{ Colonial 3 }	4	
				{ Perak 1 }		
Absconded	...	...	...	{ Colonial 28 }	36
				{ Perak 8 }		
Died	...	...	...	{ Colonial 97 }	186
				{ Perak 89 }		
Remaining on 31st December, 1910	...			{ Colonial 209 }	385	
				{ Perak 176 }		
				<hr/>		
				Total	...	611
				<hr/>		

3. The average daily number of inmates was 412.

4. The percentage of deaths was 30·44. Two Chinese lepers committed suicide by hanging.

5. In the year 1909, Perak admissions exceeded those from the Colonial Settlements; in the year under review, the admissions from Perak were as many as those of the various Settlements; in the years previous to 1910 and 1909, the Perak admissions were small when compared with those from the Settlements.

6. *Visits.*—Official visits were made during the year, by the Principal Civil Medical Officer, Straits Settlements, and the Principal Medical Officer, Federated Malay States, the Senior Medical Officers, Perak and Selangor. The Bishop of Tonquin was also a visitor.

Towkays GOH TAIK CHEE and LIM HUAH CHHIAM presented each leper with a small sum of money at the Chinese New Year.

7. *Buildings.*—Ward No. 12 had the floor cemented. A new Perak Ward for 40 beds was completed.

8. The tables appended are:—

Table *A.*—Giving the number of admissions, total number of inmates, the number of deaths, and the daily average for the last 21 years.

Table *B.*—Showing the number of inmates with the daily average in each month of the year.

Table *C.*—Showing the admissions, deaths, discharges and abscondments among Colonial and Perak lepers in each month.

Table *D.*—Giving the nationalities of the inmates.

Table *E.*—Showing occupation of inmates.

TABLE A.

Giving the Number of Admissions, the Total Number of Inmates, the Number of Deaths and the Daily Average for the past 21 Years.

Years.			Remained from previous year.	ADMISSIONS.		Total.	Deaths.	Percentage of deaths.	Daily Average.
				Colonial.	Perak.				
1890	...	...	160	137	129	426	91	21·36	183·33
1891	...	...	221	132	...	353	123	34·84	195·07
1892	...	...	187	178	110	475	122	25·68	282·96
1893	...	...	310	118	4	432	87	20·13	307·80
1894	...	...	321	111	60	492	129	26·21	311·18
1895	...	...	332	121	34	487	146	29·97	313·06
1896	...	...	301	145	24	470	136	28·93	303·37
1897	...	...	286	152	...	438	130	29·68	278·64
1898	...	...	253	152	16	421	123	29·21	262·10
1899	...	...	247	123	20	390	142	36·41	239·15
1900	...	...	214	97	59	370	115	31·08	214·15
1901	...	...	233	80	29	342	88	25·73	233·35
1902	...	...	235	84	33	352	73	20·73	243·27
1903	...	...	244	119	71	434	84	19·35	264·53
1904	...	...	334	92	42	468	140	29·91	311·02
1905	...	...	282	148	36	466	78	16·73	319·73
1906	...	...	357	107	32	496	138	27·82	344·30
1907	...	...	336	100	52	488	110	22·54	361·74
1908	...	...	356	98	52	506	107	21·15	383·73
1909	...	...	370	90	117	577	134	23·22	396·67
1910	...	...	420	97	94	611	186	30·44	413·83

TABLE B.

Showing the Number of Inmates with the Daily Average in each Month of 1910.

Months.			Total inmates.	Daily average.
January	...	...	443	421·74
February	...	...	434	427·57
March	...	...	454	432·77
April	...	...	441	429·06
May	...	...	459	427·35
June	...	...	443	420·16
July	...	...	432	407·9
August	...	...	426	404·16
September	...	...	415	386·64
October	...	...	428	405·51
November	...	...	411	401·1
December	...	...	396	390·22

TABLE C.

Showing the Admissions, Deaths, Discharges and Abscondments among Colonial and Perak Lepers in each Month of 1910.

MONTHS.	Total Admissions.	ADMISSIONS.		Deaths.		Dis- charged.		Trans- ferred.		Abscond- ments.	
		Colonial.	Perak.	Colonial.	Perak.	Colonial.	Perak.	Colonial.	Perak.	Colonial.	Perak.
January ...	23	23	...	4	4	...	...	...	...	2	...
February ...	1	1	...	3	6	3	1	...	...	1	...
March ...	34	9	25	8	4	...	...	...	...	8	...
April ...	7	6	1	9	8	...	...	...	...	2	...
May ...	37	11	26	7	7	...	...	...	...	3	3
June ...	4	3	1	11	12	...	...	...	...	6	1
July ...	19	19	...	11	12	...	...	...	...	1	2
August ...	20	5	15	12	8	...	...	...	...	...	...
September ...	9	9	...	8	5	...	...	...	...	4	1
October ...	31	5	26	8	12	...	...	...	...	...	1
November ...	4	4	...	10	6	...	...	...	...	1	...
December ...	2	2	...	6	5	...	...	...	...	...	...
Total ...	191	97	94	97	89	3	1	...	...	28	8

TABLE D.

GIVING THE NATIONALITY OF INMATES.

Nationalities.						Number.
Chinese	Hokkien	...	...	...	...	92
	Teichiu	...	...	...	...	81
	Cantonese	...	...	...	...	212
	Kheh	...	...	...	...	107
	Hailam	...	...	...	...	32
	Lui Chu	...	...	...	...	1
	Kow Chu	...	...	...	...	4
Arab	...	...	...	...	...	1
Achinese	...	...	...	...	...	1
Bengali	...	...	...	...	...	1
Eurasian	...	...	...	...	...	1
Javanese	...	...	...	...	...	1
Kling, Islam	...	...	...	...	...	4
Malays	...	...	...	...	...	6
Tamils	...	...	...	...	...	67
Total						611

TABLE E.

SHOWING OCCUPATION OF INMATES.

Barber	...	...	...	...	...	11
Blacksmith	...	...	...	...	...	8
Boatman	...	...	...	...	...	3
Butcher	...	...	...	...	...	3
Carpenter	...	...	...	...	...	27
Cart-driver	...	...	...	...	...	6
Cook	...	...	...	...	...	14
Compositor	...	...	...	...	...	1
Clerk	...	...	...	...	...	1
Dhoby	...	...	...	...	...	1
Engine-driver	...	...	...	...	...	1
Fisherman	...	...	...	...	...	4
Fitter	...	...	...	...	...	1
General coolie	...	...	...	...	...	265
Gardener (vegetable)	...	...	...	...	...	47
Goldsmith	...	...	...	...	...	1
Gilder	...	...	...	...	...	1
Hawker	...	...	...	...	...	2
Mason	...	...	...	...	...	13
Musician	...	...	...	...	...	2
Miner (tin)	...	...	...	...	...	95
Painter	...	...	...	...	...	3
Planter	...	...	...	...	...	3
Policeman	...	...	...	...	...	1
Post-peon	...	...	...	...	...	1
' Rikisha puller	...	...	...	...	...	18
Shopkeeper	...	...	...	...	...	5
Shoe-maker	...	...	...	...	...	2
Sailor	...	...	...	...	...	4
Tailor	...	...	...	...	...	4
Trader	...	...	...	...	...	13
Tinsmith	...	...	...	...	...	2
Woodcutter	...	...	...	...	...	19
Nil.	...	...	...	...	...	29
Total						611

List of Nationalities, Leper Asylum, Pulau Jerajak, for the Year 1910.

Nationalities.	Remained.	Admitted.	Total.	Discharged.	Transferred.	Absconded.	Died.	Remaining.	Remarks.
Eurasian ...	1	...	1	...	...	...	...	1	
Chinese ...	368	161	529	...	...	31	166	332	
Malay ...	4	3	7	...	...	...	2	5	
Tamil ...	41	25	66	4	...	4	16	42	
Kling, Islam ...	3	2	5	...	...	1	2	2	
Arab ...	1	...	1	...	...	...	...	1	
Bengali ...	1	...	1	...	...	...	...	1	
Achinese ...	1	...	1	...	...	..	...	1	
Total ...	420	191	611	4	...	36	186	385	

Female Leper Ward, Jelutong.

REPORT BY DR. R. DANE, *Senior Medical Officer.*

1. There were 18 patients remaining at the end of the year.
One Eurasian and 17 natives.
2. Eight more cases were admitted during the year and there were eight deaths.
3. Daily average sick 19.76.

Female Leper Ward, Jelutong.

Nationalities.	1909.					1910.					Remarks.
	Remained.	Admitted.	Died.	Discharged.	Remaining.	Remained.	Admitted.	Died.	Discharged.	Remaining.	
Eurasians ...	1	...	...	Nil.	1	1	...	...	...	1	
Natives ...	14	6	3	...	17	17	8	8	...	17	
Total ...	15	6	3	...	18	18	8	8	...	18	

PROVINCE WELLESLEY.

REPORT BY DR. W. S. SHEPPARD, *Medical Officer*.

1. On an estimated population of 123,289 the birth-rate in 1910 was 29.50 and the death-rate 33.90 per mille. The birth and death-rates for the past ten years are shown on the attached chart—Appendix A. The rapid fall in the birth-rate since 1908 is very remarkable.

2. The present method of death registration is not very reliable. The Malay constable, who performs the duties of Registering Officer, taken as a rule, straight from plough, is, of course, quite incompetent, in most instances, to arrive at the cause of death. But he rises to the occasion and is never at a loss for a diagnosis, be this "wind-sickness," "cold fever" or what not. I now endeavour to give some sort of elementary instruction to these men by means of demonstrations at the Government Hospitals.

3. The admissions to the three Government Hospitals numbered 3,046 as against 2,696 in 1909 and 2,867 in 1908.

The death-rate was 11.65 as against 12.68 in 1909 and 11.58 in 1908.

4. I have elsewhere pointed out that the death-rate of the Tamils in the Province in 1910, was 7 per cent higher than that of the rest of the population. Thus though Tamils furnished only 51 per cent of the admissions to hospital, they furnished 58 per cent of the deaths in hospital. The same ratio was maintained outside the hospitals, where, estimating the Tamils as forming 19 per cent of the population, they yet contributed 26.10 per cent of the total deaths.

Two hundred more Tamils were admitted to the Province hospitals in 1910 than in 1909.

Epidemic diseases.—Cholera and small-pox has also contributed to swell our death-rate this year.

A large and increasing number of paupers is admitted every year to the Province Wellesley hospitals and our death-rate will tend, I think, to approximate to that of other pauper hospitals in the Colony. The figures for Butterworth hospital alone show an increase of paupers from 282 in 1906 to 408 in 1910.

5. The public health has been assailed from two quarters during the year.

Cholera and small-pox were epidemic for several months and the following other specific infectious diseases occurred, viz.:—Measles, Chicken-pox, Mumps, Enteric fever, Cerebro-spinal fever. The last named appeared for the first time, so far as appears in the records.

6. Cholera broke out amongst the Tamils at Caledonia Estate in July. Subsequently it appeared at the neighbouring estates, Byram and Krian. The Malay river-side folk were infected last and suffered most, their death-rate being 97 per cent as compared with 63 per cent amongst the Tamils.

Most of the cases amongst the Malays were reported after death. The disease as it appeared amongst them was of a peculiarly virulent type, running its course in most cases in a few hours. The inaccessibility of their dwellings amongst the nipah-swamps at the mouth of the Krian river, made it next to impossible to render the sick any aid. Removal to hospital was, of course, out of the question.

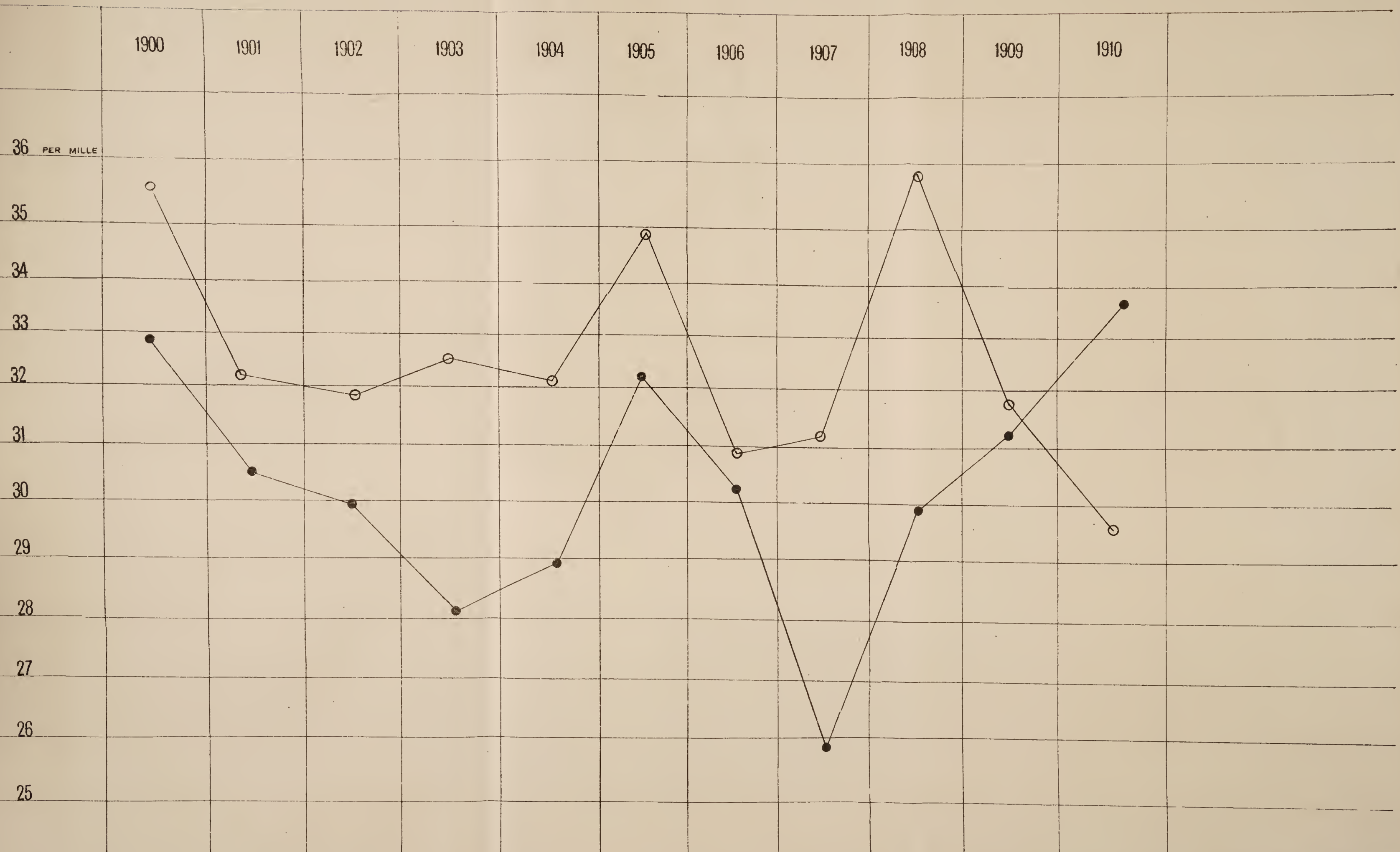
Before the epidemic ceased in October, 131 cases had been recorded with 95 deaths. The prime source of infection could not be traced. It was probably the excreta or fomites of some infected coolies newly arrived from India. The unsanitary habits of the Tamil coolies would render the spread of infection very easy, when once the materies morbi, conveyed in one or other of the above ways, was present. Subsequent infection took place, in the case of the Tamils, by way of the trenches and canals by the banks of which their huts are built and the water from which they use indiscriminately for all purposes. The Malays were infected through the Krian river water.

Six sporadic cases of the disease occurred at Prye Estate and three doubtful cases at Bertam, both in the Northern District. One case was reported at Bukit Tengah.

PROVINCE WELLESLEY

BIRTH & DEATH RATE CHART FOR THE TEN YEARS 1900 - 1910

APPENDIX-A



LITHO: AT THE COL. ENGR'S OFFICE SINGAPORE 9.3.20.11.11

Midway Sheppard

MEDICAL OFFICER P. W.

in the Central District. These cases were due, I think, to runaway coolies carrying infected garments, food stuffs, etc., with them. Prompt measures were taken and no epidemic occurred at either place.

The cost of supplying drinking-water to the riverside Malays at Krian was \$1,026. The water was conveyed in water-boats from Penang. The same method was adopted in the epidemic of 1906.

Should a similar need arise another year, water could be supplied at a very much smaller cost and just as well by using barrels or casks which could be filled from a stand-pipe at Krian and then sent down the river in sampans.

An extension of Bukit Panchor water-supply in the Krian District would appear to be desirable.

I furnished the Principal Civil Medical Officer with a report on the outbreak.

7. "Dropping" cases of small-pox occurred in April. The epidemic reached its maximum intensity in October. The Bukit Mertajam District was among the first infected and the disease has all along maintained its firmest grip on that district. The Northern District, subsequently infected, has also furnished a large number of cases. The South has happily been free from the disease. I attribute this escape of the south from infection to its lesser accessibility from Penang, which at first was, and, for many months, remained a focus of the disease; also to its relatively smaller Malay population, the disease having attacked this race more severely than any other, as will be seen from the figures below. Up to December 31st, 330 cases with 75 deaths had been recorded.

Seven thousand one hundred and twenty-one vaccinations were performed, as against 3,795 in 1909. All vaccinations were performed with lymph got from Saigon. One hundred and ninety-one large and 558 small tubes were expended.

It was not always easy to gauge our requirements beforehand and it sometimes happened that we had to use lymph which had been kept in stock for several weeks. This no doubt accounts for a good many of our vaccination failures. I am not quite sure that all the lymph was good. A certain number of tubes had a considerable admixture of blood with the lymph and I noticed that failures were more frequent with these redish-coloured tubes. Some of our operations were done on persons who had been vaccinated once, twice or even thrice before.

Taking all these factors into account, I do not think our percentage of failures (6.71) unduly high.

Isolation, except within a Government Isolation Hospital, proved ineffective. The large number of those attacked and the strong prejudice against confinement in a Government Hospital made it impossible (even had it been desirable) to isolate all the cases in this way. Most of the sick were isolated in segregation camps erected in various parts of the district by the natives themselves and a certain loose system of quarantine was instituted.

If any stronger control is attempted, concealment of cases is sure to occur and wider infection results. As it was, there were numerous prosecutions for this offence and fines to the amount of many hundred dollars were inflicted. One exceptionally serious case of a woman who carried on a traffic in the concealment of cases, was punished by two months' imprisonment and a fine of \$250.

I append tables (see statement attached) showing the age, sex, race and monthly-incidence of the disease, the vaccination history of those attacked, the type of disease and the ratio of vaccinations to birth during the last five years. The figures show the potency of vaccination to protect from the attack and also to mitigate the severity of the disease in those attacked.

There is one figure which specially calls for comment, viz., the large number of those attacked, who showed three vaccination scars. This is contrary to expectation. It is not improbable that some error has crept in here, owing to various observers not all adopting the same standard of classification. What one Dresser would call a vaccination mark another would perhaps ignore. The table of age-incidence seems to point to the need of re-vaccination in early adult life.

8. Four cases of Cerebro-spinal fever occurred amongst Javanese on Val d'or Estate, in the South Province. Three of these were admitted to hospital and of these two died and one recovered. The diplococcus intracellularis was demonstrated in the cerebro-spinal fluid in one case. The average duration of the disease in the three cases that died was four days.

9. Four cases with three deaths from enteric fever are recorded—two Tamils at Sungai Bakap and two Chinese at Bukit Mertajam.

Considering the absence of a nursing staff in the hospitals in Province Wellesley, it is a wonder that any case of enteric fever, other than the mildest, ever recovers. The same holds true for many other diseases such as dysentery, pneumonia and malarial fever in which nursing is of the first importance as a factor in recovery.

10. Little need be stated about the other infectious diseases. Their disabling effect was slight and their mortality nil, except for one death from malignant measles in a child.

11. Efforts were made during the year to improve the quality of the Bukit Panchor water, which, though innocuous, is far from perfect in taste and appearance.

I understand that plans have been prepared for the enlargement of the Bukit Seraia reservoir in the Central District.

12. A much-needed scheme for the drainage for the swampy area at Butterworth has been inaugurated.

13. I was in medical charge from January 7th. Messrs. NICKELSEN and DUTTA were stationed at Butterworth and Sungai Bakap respectively. Mr. SINHA relieved Mr. WHEATLEY at Bukit Mertajam in the month of August. Dresser ALWINS of Sungai Bakap Hospital resigned in September, and was replaced by apprentice Dresser SAMUEL. Exceptional strain was thrown on the staff during the latter half of the year, owing to the simultaneous outbreak of small-pox and cholera.

Dresser FRANCIS retired from the service at the end of the year. He had suffered for some time from Phthisis. He was a very willing and efficient worker.

Butterworth Hospital.

1. A new latrine and bath-room for females was erected during the year.

Whitewashing, painting and several minor repairs were carried out during the year by the Public Works Department.

2. The Quarantine Camp was occupied during the greater part of the year.

Two or three new sheds in this camp are required to replace others which have collapsed. I would suggest that an iron framework only be set up. Attap roofs and sides could quickly be got ready when needed. The infrequency and at the same time urgency of the calls for the occupation of such a camp as this makes it desirable to have a more or less permanent framework, which can withstand the ravages of white ants and dry rot, but a complete ready-made structure is unnecessary.

3. The following figures represent the work done during the year:—

Remaining from 1909	...	...	...	...	37
Admitted during 1910	...	...	...	...	841
Total treated	...	...	...	...	878
Average daily number of sick	...	...	...	...	48.03
Discharged	...	...	...	...	722 cases
Absconded	...	...	...	...	2
Died	...	...	...	...	123
Died within 48 hours of admission	...	...	...	...	23
Percentage of deaths to total treated	...	...	...	...	14.00
Percentage of deaths to total treated excluding those dying within 48 hours of admission	...	...	...	...	11.69

4. Police cases numbered 123, the majority having to be treated as out-patients. Sixteen supposed lunatics were sent for observation.

Medical evidence was given at the Police Courts on 60 occasions.

Twenty-one dead bodies were sent in by the Coroner for post-mortem examinations. Fifteen inquests were held during the year.

5. *The principal diseases treated were:—*

				Cases.	Deaths.
				—	—
Malarial fever	...	...	...	121	5
Diarrhœa	...	...	...	61	34
Venereal diseases	...	...	...	60	...
Ulcers	...	...	...	54	...
Dysentery	...	...	...	33	20
Abscess	...	...	...	30	...
Phthisis	...	...	...	28	13
Small-pox	...	...	...	27	7
Bronchitis	...	...	...	22	2
Beri-beri	...	...	...	11	2

6. *The following operations were performed:—*

External Urethrotomy	...	...	...	...	1
Hepatic Abscess	...	...	...	...	1
Ligature and Excision of hæmorrhoids	...	...	...	...	2
Removal of cysts	...	...	...	...	2
Amputation of fingers	...	...	...	...	4
Circumcisions	...	...	...	...	7
Incisions of abscesses (large)	...	...	...	...	32
Paracenteses abdominis	...	...	...	...	6
Incisions of buboes	...	...	...	...	9
Fistulæ in ano	...	...	...	...	2

There were no deaths.

A good many serious cases of traumatism were dealt with. Amongst these were one case of stabbing with wound of lung, one case of fractured skull, one case of penetrating wound of abdomen, one case of ruptured perinum, three cases of ruptured urethra, four cases of compound fractures of long bones, besides several severe wounds. All recovered.

7. The number of patients treated at the Out-door Dispensary was 1,139 as against 896 in 1909. The receipts amounted to \$83.82, against \$69.88 in 1909.

Those treated included:—

				Males.	Females.
				—	—
Europeans	...	...	...	53	19
Eurasians	...	...	...	47	24
Chinese	...	...	...	201	8
Malays	...	...	...	194	28
Indians	...	...	...	478	79
Others	...	...	...	8	...
				—	—
			Total	981	158
				—	—

8. *The Principal diseases treated were:—*

Fevers	...	...	...	...	351
Venereal diseases	...	...	...	...	59
Bronchitis	...	...	...	...	93
Anæmia	...	...	...	...	20
Diarrhœa	...	...	...	...	37
Ulcers	...	...	...	...	121
Injuries	...	...	...	...	103
Dysentery	...	...	...	...	11

Bukit Mertajam Hospital.

1. A store-room was added to the office-block at the end of the year.
2. The Small-pox epidemic necessitated the erection of an attap isolation-shed in the hospital compound.

3. The following figures represent the work done :—

Remaining from 1909	...	...	...	...	43
Admitted 1910	...	...	...	...	1,185
Total treated	...	...	...	...	1,228
Average daily number of sick	...	...	...	...	54.71
Discharged	...	...	...	...	1,075
Transferred	...	...	...	...	4
Absconded	...	...	...	...	5
Died	...	...	...	...	119
Percentage of deaths to total treated	...	...	...	...	9.69
Percentage of deaths to total treated excluding those dying within 48 hours of admission	...	...	...	...	7.89

4. The principal diseases treated were :—

				Cases.	Deaths.
				—	—
Malarial fever	...	...	...	208	11
Ulcers	...	...	...	156	...
Syphilis	...	...	...	112	2
Dysentery	...	...	...	60	28
Small-pox	...	...	...	48	10
Bright's disease	...	...	...	36	4
Phthisis	...	...	...	34	16
Gonorrhœa	...	...	...	29	...
Beri-beri	...	...	...	27	2
Ankylostomiasis	...	...	...	26	1
Chancroids	...	...	...	21	...
Valvular disease of heart	...	...	...	15	2
Injuries	...	...	...	55	2

5. The following operations were performed :—

Laminectomy	...	...	...	...	1
Amputation of thigh	...	...	...	...	1
Resection of rib	...	...	...	...	1
Extraction of cataract	...	...	...	...	2
Operation for hæmatocele	...	...	...	...	1
Radical cure of hydrocele	...	...	...	...	1
Hepatic abscess	...	...	...	...	1
Thiersch's skin grafting	...	...	...	...	2
Removal of non-malignant tumours	...	...	...	...	3
Sequestrotomy	...	...	...	...	4
Litholopaxy	...	...	...	...	1
Supra pubic lithotomy	...	...	...	...	1

There were no deaths.

In addition to these there were numerous minor operations such as Enucléation of glands 10, Circumcisions 12, Paracenteses thoracis 2, Paracenteses abdominis 15, Incisions for cellulitis 4, Incisions for abscess 30.

6. The number of out-patients treated was 2,254, against 1,602 in 1909. The receipts amounted to \$312.95, against \$186.35 for 1909.

Those treated were :—

					<i>Males.</i>	<i>Females.</i>
					—	—
Europeans	...	...	...	...	12	7
Eurasians	...	...	...	...	64	29
Chinese	...	...	...	...	805	354
Indians	...	...	...	...	665	136
Malays	...	...	...	...	133	19
Others	...	...	...	...	8	22

7. The chief diseases treated were :—

Fever	...	...	...	...	...	652
Ulcers	...	...	...	...	...	313
Bronchitis	...	...	...	...	...	177
Syphilis	...	...	...	...	...	108
Gonorrhœa	...	...	...	...	...	67
Chancroids	...	...	...	...	...	52
Injuries	...	...	...	...	...	68
Skin diseases	...	...	...	...	...	67
Intestinal parasites	...	...	...	...	...	40
Anæmia	...	...	...	...	...	40
Dysentery	...	...	...	...	...	27
Diarrhœa	...	...	...	...	...	27

8. The incidence of malaria remained about the same as in 1909.

9. Twelve necropsies were performed on bodies sent by the Police. Twenty exhibits sent by the Police were tested chemically to ascertain if they contained morphine or cocaine. Medical evidence was necessary on 50 occasions during the year.

10. Six persons were sent for observation on their mental condition.

Sungai Bakap Hospital.

1. The wards and out-houses have been maintained in good order throughout the year. More space is needed in the office-block. An extension of the present building will be asked for in 1911.

2. The following figures represent the work done during the year :—

Remaining from 1909	...	...	...	...	37
Admitted in 1910	...	...	...	...	1,020
Total treated	...	...	...	...	1,057
Average daily number of sick	...	...	...	...	45.86
Died	...	...	...	...	113
Percentage of deaths to total treated	...	...	...	...	10.69
Percentage of deaths to total treated excluding those dying within 48 hours of admission	...	...	...	...	9.14

3. The principal diseases treated were :—

				<i>Cases.</i>	<i>Deaths.</i>
				—	—
Malarial fever	...	...	...	121	6
Dysentery	...	...	...	114	31
Ulcers	...	...	...	83	...
Syphilis	...	...	...	57	1
Ankylostomiasis	...	...	...	39	9
Diarrhœa	...	...	...	33	11
Anæmia	...	...	...	32	4
Phthisis	...	...	...	17	8
Small-pox	...	...	...	9	5
Beri-beri	...	...	...	9	...
Valvular diseases of heart		...	...	9	2
Pneumonia	...	...	...	7	2
Bright's disease	...	...	...	6	1
Cholera	...	...	...	3	3

4. The following were the operations performed :—

Laparotomies	...	...	...	...	3
Hepatic abscess	...	...	...	...	1
Radical cure of hernia	...	...	...	...	3
„ „ hydrocele		...	...	...	1
Ligature of hæmorrhoids		...	...	...	3
Amputation of limbs	...	...	...	...	2
Excision of shoulder-joint		...	...	...	1
Enucleation of eye-ball	...	...	...	...	1
For malignant tumour	...	...	...	...	1
Enucleation of glands	...	...	...	...	4
Circumcisions	...	...	...	...	27
Abscesses (large) incised...		...	...	...	23
Paracentesis abdominis	...	...	..	...	7
Paracentesis thoracis	...	...	...	...	1

There were three deaths.

5. Five hundred and forty patients attended the Out-door Dispensary during the year. The fees collected amounted to \$76.85.

6. One hundred and fifty-seven persons were sent to hospital by the Police for examination.

Thirty-three bodies were sent in by the Coroner for post-mortem examination.

Eight persons were sent for observation as to their mental condition.

7. The health of the Police in the Southern District is reported by the Assistant Surgeon to have been not entirely satisfactory in 1910. There were 19 admissions to hospital. Two constables died from small-pox contracted in the course of their duty.

Estate Hospitals.

1. An estate hospital was built during the year at Val d'or. It was not, however, ready for occupation till 1911.

There are now eight estate hospitals in Province Wellesley.

2. The staff of dressers at most of these hospitals is very unsatisfactory. The holders of these posts are, for the most part, untrained men and it is no injustice to state that, as a class they are incompetent to perform their duties. It must of necessity be so, when as in a case, within my own knowledge the only credential possessed by a candidate for a dressership—a successful candidate too—was that he had been as Assistant Station-master on the Railway and that he had a brother who at some remote period in his career had been a dresser. This is perhaps an extreme case. But it shows how unsuitable are some of the men who fill these posts and also how clamant is the need for some standard of qualification. At present, the estate dresser is selected by the estate manager, usually after advertisement in the local press. I do not know on what principle the latter proceeds in making his selection. Certainly many very ill-qualified men are appointed in this way. Further, another aspect of the matter is illustrated by the fact that one of the very few satisfactory dressers in the Province received notice of dismissal shortly after he had reported to me the ill-usage of some of the coolies on the estate on which he was employed. The manager informed me that the two incidents were not related to each other, nevertheless, the present dependence of the dresser on the good-will of the manager, is, I think to be deprecated.

3. The health of the coolies on Batu Kawan, Caledonia and Byram was not good. Dysentery was prevalent at the first-named estate for the first six months of the year and throughout the year at the other two estates where cholera also broke out in July and August.

On the other estates, the health of the coolies was fairly good.

4. Bowel disorders, as in previous years, have caused the highest mortality. Concerning the "toddy-hypothesis" put forward in my report for 1909, further observation leads me to think that we must look elsewhere for the cause of the coolie's bowel disorders. The proportion of those attacked by these diseases is too small, compared with the number of those who drink toddy, to lend support to the conjecture that toddy-drinking produces bowel disorder. Rather am I inclined to think that the causation of these disorders is multiple and various, including such factors as chill, exhaustion, improper and unwholesome food and of course the ever-present source of infection that lurks in the trenches and canals by the banks of which, when available, it is apparently decreed that the coolie shall have his hut built. Observation of the coolie's doings between 6 A. M. and 4 to 5 P. M.—the hours spent in the field—would also throw light on the origin of some of his diseases. At present, I think, we are apt to pay too little attention to this feature of the coolie's life.

1.—*Bertam Estate*.—Two new coolie lines of improved type, each having 20 rooms were erected during 1910. They accommodate only a very small proportion of the coolies, the majority of whom are still housed in the ordinary dark, low-roofed, mud-flooded huts. No latrines exist. The ground all round the lines is polluted with human excreta.

Four wells rigged with pumps supply drinking-water.

This hospital has been unfortunate in not being able to obtain the services of a competent dresser. Three men have filled the post, successively, within the past eighteen months and though the manager probably chose the best material he could get, his choice has not been altogether satisfactory.

The figures which I append to my remarks on each of the following estates are supplied by the Dresser or Assistant Surgeon in charge of the hospital. I cannot vouch for their accuracy.

Average number of coolies resident on estate in 1910.—A. 875. B. nil. C. nil.

No. of admissions to hospital—617.

No. of deaths in hospital—21.

Percentage of deaths to total population—2.40.

Principal diseases treated :—

Cases.

					—
Bowel disorders	...	...	...	...	103
Malarial „	...	...	...	...	138
Venereal „	...	...	...	...	25
Ulcers	...	...	...	...	168
Phthisis	...	...	...	...	1
Ankylostomiasis and Anæmia	...	...	...	...	7

(A. Tamil. B. Javanese. C. Chinese.)

2. *Malakoff Estate*.—New lines and a new hospital are needed on this estate.

There are no latrines and the ground, in close proximity to the coolie lines, is polluted by the deposit of human excreta.

Water supply is derived from four good wells, three of which are rigged with pumps.

The hospital staff is not satisfactory, though pains appear to be taken.

Average number of coolies resident on estate in 1910: A. 728, B. 190, C. 140.

Number of admissions to hospital	...	...	...	815
Number of deaths in hospital	...	...	...	29
Percentage of deaths to total population	...	...	...	2.74

Principal diseases treated :—

Cases.

					—
Bowel disorders	...	...	...	...	121
Malarial „	...	...	...	...	154
Venereal „	...	...	...	...	33
Ulcers	...	...	...	...	301
Phthisis	...	...	...	...	...
Ankylostomiasis and Anæmia	...	...	...	...	18

(A. Tamil. B. Javanese. C. Chinese.)

3. *Prye Estate*.—Three new coolie lines were built in 1910, and others are being rapidly constructed.

Six cases of cholera occurred here in September and October but the vigilance with which the water supply was guarded prevented any spread of the disease.

There are no latrines.

The water supply is good being derived by pipes from a hill-reservoir 10 miles from the estate. A little extension of it, however, to the more distant coolie lines would make it better.

Should the high hospital-rate which obtained at the end of the year continue, further hospital accommodation will have to be provided. In that case, I would strongly recommend the rebuilding of the whole hospital on a new site. The present fabric is old, and the site is much too cramped.

Average number of coolies resident on estate in 1910: A. 815, B. 166, C. 115.

Number of admissions to hospital	...	...	...	1,503
Number of deaths in hospital	...	...	...	30
Percentage of deaths to total population	...	...	...	2.73

Principal diseases treated :—

Cases.

					—
Bowel disorders	...	...	...	...	292
Malarial „	...	...	...	...	399
Venereal „	...	...	...	...	65
Ulcers	...	...	...	...	269
Phthisis	...	...	...	...	9
Ankylostomiasis and Anæmia	...	...	...	...	8

(A. Tamils. B. Javanese. C. Chinese.)

4. *Batu Kawan Estate*.—This estate hospital is extremely dilapidated. The foundations of a new one were laid in April, but further progress has been delayed. The present structure barely furnishes protection from the elements.

This estate had a high death-rate in the first half of the year from bowel disorders. Improvement of the water supply was brought about by cleaning out the mud-deposit of ten years at the bottom of the reservoir and this resulted in a great reduction in the mortality.

This is the only estate, I think, in the Province with a conservancy system,—latrines erected over a sea-water trench.

The hospital staff is not good.

Average number of coolies resident on estate in 1910	...	...	A.	B.	C.
			398	193	216
Number of admissions to hospital	...	...	...	...	873
Number of deaths in hospital	...	...	...	...	32
Percentage of deaths to total population	...	...	...	...	3.96
Principal diseases treated :—					Cases.
					—
Bowel disorders	...	...	...	...	80
Malarial disorders	...	...	...	...	78
Venereal disorders	...	.	...	...	37
Ulcers	...	...	...	...	75
Phthisis	...	...	...	...	4
Ankylostomiasis and Anæmia	...	...	...	...	26

(A. Tamils B. Javanese. C. Chinese.)

5.—*Val d'or Estate*.—The newly-erected hospital was not used in 1910 for the reception of patients, its equipment not being complete.

Several new substantial coolie lines were erected.

The water supply is derived from a stream which runs into a large tank or pond. There are also several wells.

No conservancy system exists.

It was at this estate, amongst newly-arrived Javanese coolies, that the cases of cerebro-spinal fever above alluded to occurred.

6.—*Bakap Plantations*.—Many new coolie lines were built, on improved plans, in 1910.

The site of the lines needs draining by cemented drains running round the lines.

The water supply is from wells, which are not deep and which are in very bad repair, so allowing surface-water to run into them. A better water supply is needed. Water could easily be got from the Bukit Panchor reservoir, the water pipes from which pass close to the estate.

There is a conservancy system on this estate.

Average number of coolies resident on estate in 1910.	...	...	A.	B.	C.
			319	0	0
Number of admissions to hospital	...	...	...	...	1,110
Number of deaths in hospital	...	...	...	...	7
Percentage of deaths to total population	...	...	...	...	2.19
Principal diseases treated :—					Cases.
					—
Bowel disorders	...	...	...	...	212
Malarial disorders	...	...	...	...	22
Venereal disorders	...	...	...	...	3
Ulcers	...	...	...	...	100
Phthisis	...	...	...	...	0
Ankylostomiasis and Anæmia	...	...	...	...	9

(A. Tamils B. Javanese. C. Chinese.)

7.—*Caledonia and Victoria Estates*.—New lines for free coolies were commenced. The old lines were dilapidated; many of them had to be burnt during the cholera epidemic.

The new lines are being erected on the same site as the old ones, proximity to a canal, being apparently the prime consideration in the choice of site, I cannot help

thinking that it is a mistake to place temptation in the coolie's way by building his hut so near to the canal or trench. His insanitary habits inevitably lead to the pollution of the canal and bowel disorders are the result. The lesson of the recent cholera outbreak would appear to have been ignored.

I am not aware by whom the site for the new lines was selected.

The Bukit Panchor water is laid on in pipes to this estate but many more standpipes are needed.

There is no conservancy system. The ground near the Tamil lines is much polluted and the proximity of the canals and trenches makes it impossible to keep these latter safe from infection.

Considering the large population of these two estates and their numerous canals and trenches that furnish a ready channel for the spread of infection, it would appear to be specially desirable that a proper system of conservancy should be inaugurated without delay.

Average number of coolies resident on estate in 1910: A. 2,371, B. 730, C. 853.

Number of admissions to hospital	2,545.
----------------------------------	-----	-----	-----	--------

Number of deaths in hospital	146.
------------------------------	-----	-----	-----	------

Percentage of deaths to total population	3.69.
--	-----	-----	-----	-------

Principal diseases treated :—

				Cases.
				—
Bowel disorders	...	...	...	722
Malarial „	...	...	...	509
Venereal „	...	...	...	89
Phthisis	...	...	...	2
Ankylostomiasis and Anæmia	...	...	...	19

(A. Tamils. B. Javanese. C. Chinese.)

8. *Byram Estate*.—The Bukit Panchor water is now being conveyed to this estate in pipes.

The death-rate during 1910 from bowel disorders was high. I expect an improved water supply will result in a diminution of these disorders.

There are no latrines.

The hospital is by a long way the best estate hospital in the Province and the care bestowed on its patients by the Dresser-in-charge is as unique as it is praiseworthy.

Average number of coolies resident on estate in 1910: A. 411, B. 484, C. 35.

Number of admissions to hospital	1,114.
----------------------------------	-----	-----	-----	--------

Number of deaths in hospital	60.
------------------------------	-----	-----	-----	-----

Percentage of deaths to total population	6.45.
--	-----	-----	-----	-------

Principal diseases treated :—

				Cases.
				—
Bowel disorders	...	...	...	509
Malarial „	...	...	...	287
Venereal „	...	...	...	45
Ulcers	...	...	...	33
Phthisis	...	...	...	2
Ankylostomiasis and Anæmia	...	...	...	16

(A. Tamils. B. Javanese. C. Chinese.)

STATEMENT.

Vaccination history.	Discrete.	Confluent.	Hæmor- rhagic.	Type of disease unrecorded.	Deaths.
One vaccination scar ...	20	13	Nil.	Nil.	1
Two „ scars ...	18	16	Nil.	Nil.	4
Three „ „ ...	37	14	Nil.	Nil.	4
Indistinct marks ...	15	5	Nil.	Nil.	5
Not vaccinated ...	42	92	10	3	53
Vaccination history un- recorded ...	8	9	4	Nil.	9
Recently vaccinated ...	20	4	Nil.	Nil.	1
	160	153	14	3	75

Total number of cases ...	...	...	...	...	330
„ „ deaths ...	...	...	...	...	75
Death-rate ...	...	...	...	...	22·72 per cent.

Sex-incidence.

Total number of males ...	...	...	...	...	185
„ „ females ...	...	...	...	...	145
				Total ...	330

Race-incidence.

Total number of Chinese ...	...	...	...	...	17
„ „ Malays ...	...	...	...	...	269
„ „ Indians ...	...	...	...	...	43
„ „ Europeans ...	...	...	...	...	1
				Total ...	330

Age-incidence.

Three to 12 months ...	...	...	...	...	9
One to 5 years ...	...	...	...	...	37
Five to 15 years ...	...	...	...	...	78
Fifteen to 30 years ...	...	...	...	...	181
Over 30 years ...	...	...	...	...	25
				Total ...	330

<i>Monthly-incidence.</i>				<i>Cases.</i>	<i>Deaths.</i>
				—	—
March	...	...	...	1	1
April	...	...	...	4	2
May	...	...	...	1	1
June	...	...	...	Nil.	Nil.
July	...	...	...	1	1
August	...	...	...	23	8
September	...	...	...	85	20
October	...	...	...	90	17
November	...	...	...	87	16
December	...	...	...	38	9
Total				330	75

Table showing ratio of vaccinations to births recorded during the last five years:—

			<i>Births recorded.</i>	<i>Vaccinations recorded.</i>	<i>Ratio.</i>
			—	—	—
1906	...	...	3,707	3,742	—
1907	...	...	3,747	3,593	95·89
1908	...	...	4,328	3,845	88·84
1909	...	...	3,880	3,795	97·80
1910	...	...	3,640	*3,272 †3,849	89·89

APPENDIX D.

Malacca.

REPORT BY DR. A. H. KEUN, *Medical Officer.*

Birth-rate.—The births in the Settlement during 1910 show an increase of 412, as compared with 1909, being 4,043 (males 2,059, females 1,984) in 1909. Thus there was a total of 4,455 (males 2,339, females 2,116) in 1910. With an estimated population of 98,907, this shows a birth-rate of 45·04 per mille, compared with 41·03 per mille in 1909 and 46·21 per mille in 1908. The population is comprised as follows:—

Europeans	...	...	...	...	54
Eurasians	...	...	...	...	1,485
Malays	...	...	...	...	75,520
Chinese	...	...	...	...	20,761
Indians	...	...	...	...	1,010
Others	...	...	...	...	77

* Infant. † Adult.

Death-rate.—The number of deaths recorded was 5,188 (males 3,232, females 1,956) as contrasted with 4,085 in 1909 and 4,699 in 1908. The death-rate for the year on the estimated population given above was 52·45 per mille as contrasted with 41·46 per mille in 1909 and 47·88 in 1908.

Public Health.—The general health of the Settlement judging by the statistics given above is very unsatisfactory. The increased mortality has been shown especially in children. Infantile convulsions accounting for 1,259 deaths as contrasted with 1,036 in 1909. This is undoubtedly due to faulty feeding of the infants, boiled rice and starchy food entering into the dietary even from the first month of life. Another cause is, I think, a deficiency in the stamina of the infants due to the bad state of health of the mother either during pregnancy or after confinement. I have been struck at the prevalence of Beri-beri among women at the puerporium interfering with the nursing of their infants. The system of putting children out to nurse by the well-to-do is another great cause of the increased mortality since the same interest and care are not shown by the baby farmers.

Fevers—unclassified.—Malarial, etc., account for a large number of deaths. With the present system of diagnoses made by the friends and relatives and accepted by the Police who view the bodies in out-of-the-way districts, the different varieties of fever cannot be differentiated, but undoubtedly most of the deaths returned under unclassified fevers are malarial in origin. I have formed this opinion from the large number of cases seeking admission into the hospitals for fever and examinations of whose blood revealed Malaria in most cases, such cases dying outside would be returned as fever unclassified. Malignant malaria is invariably found to be the sinning factor. The large swampy areas in Malacca form ideal breeding places for the mosquitoes and the prevalence every where of these swamps interferes with all remedies for extermination of the mosquitoes.

The number of deaths from unclassified fevers was 2,408 as contrasted with 1,931 last year; malaria was returned as a cause of death in 266 cases, last year 175. Beri-beri accounted for 267 deaths. This gives no idea as to the prevalence of the disease since only a small percentage die of it and many deaths are attributed to other diseases, *e.g.*, fever, rheumatism, dropsy, etc. I have visited various kampongs and have been struck with the number of Beri-beri cases among the Malays.

Small-pox broke out in Malacca in February, when one case occurred in Rembia, the next case was reported on March 8th. In April, the disease started at Sempang Ampat (Alor Gajah) and soon spread with great rapidity. During the whole year 241 cases were reported with 58 deaths, most of the cases occurred in the Alor Gajah district, *viz.*, 148 cases with 26 deaths. In the Central Division there were 75 cases with 17 deaths. There were 14 deaths discovered to have been caused by small-pox which were not reported during life. In the Jasin Division, there were 4 cases with 1 death.

Systematic vaccinations were done in all the infected areas and all contacts and neighbours were vaccinated. The total number of vaccinations performed during the year was 5,763, of which 1,720 were cases re-vaccinated during the outbreak of small-pox.

	<i>No. vaccinated.</i>	<i>Perfect.</i>	<i>Modified.</i>	<i>Failed.</i>	<i>Not seen.</i>
Town	1,330	997	65	244	24
Country	4,433	3,760	266	393	14

The percentage of failures was 11·05 as against 7·9 in 1909 and 1·25 in 1908. The nationalities of those vaccinated were:—

Europeans	...	...	...	...	6
Eurasians	...	...	...	...	133
Chinese	...	...	...	...	989
Malays	...	...	...	...	4,389
Indians	...	...	...	...	217
Others	...	...	...	...	29

Municipality.—The number of births within Municipal limits was 659 (males 337, females 322).

The number of deaths was 879 (males 571, females 308).

The infant mortality was 215 in children under one year of age, giving a percentage mortality of 32·62 to the total births.

Durian Daun Hospital.

Work done.—Several works of a minor nature such as repairs to kitchen, bathing-sheds and Dressers' out-houses were done during the year. Ward No. 5 and the passages between the several wards were reattaped, while the new mortuary was completed. One of the old mortuary sheds was converted into a workroom for the carpenter. Ward No. 1 had a new hardwood floor made, while the second Assistant Surgeon's quarters were converted into first-class ward and cases were received in it in April, while the number of admissions into the first-class ward for the year was 59 as contrasted with 23 in 1909. In May, I wrote for and obtained authority for the purchase of special furniture and crockery for this ward.

Various changes took place during the year in the staff. Dr. WEIR was in charge up to March 11th, when I relieved him. Senior Assistant Surgeon DE SOUZA was transferred to Penang on March 4th; being succeeded by Mr. SINHA, who on August 13th, was ordered to proceed to Bukit Mertajam, Province Wellesley, relieving Mr. A. H. WHEATLEY who came on to Malacca. On June 17th, Mr. DE CRUZ arrived to take up the long-vacant post of second Assistant Surgeon at the Durian Daun Hospital. Of the Dressers in the hospital, Mr. R. NUNIS, DE SOUZA and KIAT SWEE remained throughout the year. Dressers KASS, BUANG and VOON TIAN LOCK resigned, the first in July, the second in August, and the third in September. They were succeeded by Dressers R. LAZAROO, GOVINDASAMY and TAMBY KECIHL, all of Singapore. TAMBY KECIHL, a few days after his arrival, developed small-pox and a temporary Dresser, Mr. SILVADORAI, from Singapore was sent to replace him. With a daily average of about 270 cases, the present staff is wholly inadequate for the most satisfactory working of the hospital. The small staff has done very good work in keeping the hospital in a state of efficiency and this was only obtained by their working overtime and with a better system. The Hospital Steward, Mr. C. THOMAZIOS, was boarded out of the service in July, and Mr. G. PEREIRA of Singapore succeeded him.

General Hospital.

European Ward:—

Remained, 1st January, 1910	...	...	...	1
Admitted, 1910	...	...	...	58
Discharged ...	...	...	...	57
Absconded ...	...	...	...	...
Died ...	...	...	...	2
Remaining, 31st December, 1910	...	...	...	...
Average daily sick	...	...	...	1·2

Native Ward:—

Remained, 1st January, 1910	...	...	...	5
Admitted, 1910	...	...	...	394
Discharged ...	...	...	...	370
Absconded ...	...	...	...	1
Died ...	...	...	...	14
Remaining, 31st December, 1910	...	...	...	14
Average daily sick	...	...	...	14·68
Percentage of deaths to total treated excluding Quarantine				
Camp	...	...	...	3·47

Chief diseases treated:—

Beri-beri	...	...	...	14 with 1 death.
Dysentery	...	...	...	13 „ 2 „
Malaria	...	...	...	60 „ 1 „
Ulcer /	...	...	...	21 „ ... „
Injuries	...	...	...	68 „ 1 „

Pauper Hospital.

Remained, 1st January, 1910	...	...	...	156
Admitted, 1910	...	...	...	2,975
Discharged	...	...	...	2,548
Absconded	...	...	...	24
Died	...	...	...	318
Remaining, 31st December, 1910	...	...	..	241
Average daily sick	...	...	...	253·62
Percentage of deaths to total treated	...	...	...	10·12

Chief diseases treated:—

Beri-beri	...	...	...	417 with 37 deaths.
Dysentery	...	...	...	109 „ 40 „
Gonorrhœa	...	...	...	49 „ ... „
Malaria	...	...	...	770 „ 54 „
Pneumonia	...	...	...	55 „ 25 „
Syphilis	...	...	...	161 „ 6 „
Bronchitis	...	...	...	41 „ ... „
Phthisis	...	...	...	97 „ 55 „
Diarrhœa	...	...	...	74 „ 18 „
Ulcers	...	...	...	381 „ ... „
Injuries	...	...	...	49 „ ... „
Ankylostomiasis	...	...	...	53 „ 12 „

Operations—General and Pauper Hospitals:—

Major	...	...	...	...	7
Minor	...	...	...	...	147

Medico-legal work—82 cases.

Post-mortems done—67.

Quarantine Camp.

Remaining, 1st January, 1910	...	...	...	...
Admitted, 1910	...	...	...	88
Discharged	...	...	...	55
Died	...	...	...	17
Remaining	...	...	...	16
Average daily sick	...	...	...	6·10

Chief diseases treated:—

Small-pox	...	...	...	75 with 17 deaths.
Chicken-pox	...	...	...	7 „ ... „
Measles	...	...	...	6 „ ... „
Number of contacts isolated	...	...	...	85

All fever cases whether admitted for fever or developed after admission for other diseases have their blood carefully examined for malaria. In this connection it is interesting to note the great incidence of Malignant Malaria in the Settlement, while the number of cases admitted for this disease has been unusually high, the mortality is comparatively low owing to the greater care taken in the nursing and treatment of these cases.

Beri-beri is another disease that is making alarming strides in the country. The figures quoted for the hospitals do not give any idea of the prevalence of the disease in the Settlement. It is only now that the Malays are beginning to come for treatment for this disease. From inquiries I have made and from my house-to-house inspections in connection with small-pox, I have discovered many cases in all the kampongs. In some districts the disease seem more prevalent and in those especially

when rice is purchased at the shop and not grown and prepared by the householder himself. In all cases rice is eaten, especially the cheaper variety of rice. I have not seen any cases among parboiled rice eaters.

Jasin Hospital.

Staff.—Mr. A. L. WILLIAMS was Assistant Surgeon in charge up to October 19th, when Mr. MEHTA relieved him and remained in charge for the rest of the year. Mr. DANKER, Senior Dresser, remained throughout the year, while C. P. PILLAY, 2nd Dresser, worked to June 12th, when he resigned and was succeeded by Mr. B. DE SOUZA.

During the early part of the year, the roofing of Wards 1 and 2 was renewed, while limewashing and minor repairs were carried out during the latter part of the year, owing to the admission of Bukit Asahan Estate coolies. The majority of admissions were patients from Rim Estate, Bukit Asahan and Kemendore, the last mentioned sending mostly females.

During the year, 70 females sought admission into hospital, showing an increase of nearly six times as compared with the year 1909. The largest number of females at one time in the ward was eight. Parboiled rice was given throughout the year as in the four preceding years. No cases of beri-beri occurred among patients under treatment for other diseases. There were 125 cases of Beri-beri under treatment with 5 deaths; the percentage of mortality was 4. Deducting two deaths which occurred within 24 hours of admission the death-rate would be reduced to 2·41. Hence there is a decrease in the death-rate as compared with 1909 (8·84 per cent).

There was an increase in the admissions and in the death-rate of Malarial Fever, Dysentery and Enteritis.

Four cases of Small-pox occurred in Jasin and Relau during the year, with one death. A few minor operations were performed; of those recorded there were 52, viz.: Circumcision 5, Opening of Abscesses 18, Scraping joints 5, Ligature of Arteries 2, Cellulitis (incision) 6, Extract of tooth 2, Sequestrotomy 5, Injured gut 1, Enucleation glands 5, Removal of toe 3.

The total admissions amounted to 1,048 patients, which shows an increase of 296 as compared with the preceding year, while the death-rate has fallen to 8·71 per cent, that of 1909 being 10·48 per cent.

Remained, 1st January, 1910	...	...	...	54
Admitted	...	...	...	1,048
Discharged	...	...	...	896
Transferred	...	...	...	3
Absconded	...	...	...	37
Died	...	...	...	96
Remaining, 31st December, 1910	...	...	...	70
Daily average of patients	...	...	...	51·75
Percentage of deaths	...	...	...	8·71
Excluding 21 deaths in 48 hours, death-rate is	...	...	...	6·93

Chief diseases treated were:—

Beri-beri	...	...	125	with	5	deaths	
Malarial fever	...	...	291	„	14	„	
Ulcers	...	...	200	„	3	„	
Syphilis	...	...	28	„	...	„	(Phagedæna)
Nephritis	...	...	31	„	4	„	
Anæmia	...	...	27	„	2	„	
Dysentery	...	...	43	„	17	„	
Phthisis	...	...	31	„	20	„	
Bronchitis	...	...	28	„	...	„	
Pneumonia	...	...	9	„	5	„	
Enteritis	...	...	47	„	20	„	
Wounds	...	...	20	„	...	„	
Venereal disease	...	...	63	(males 54, females 9.)			

Post-mortem performed (Hospital cases) 4.

(Coroner's bodies) 19.

Gaol Hospital.

There were 40 admissions into hospital for the following diseases:—Dysentery 1, Malarial fever 6, Mumps 1, Anæmia 5, Conjunctivitis 6, Asthma 2, Diarrhœa 12, Bubo 1, Abscess 1, Herpes 1, Ulcer 1, Ringworm 2, Wound of tongue 1. The average daily number of prisoners was civil 8·57, criminal 33·32.

Leper Asylum.

There were no admissions during the year.

Alor Gajah Hospital.

There were 15 admissions (with 2 deaths) into hospital as follows:—

Small-pox ...	...	...	14 with 2 deaths
Injuries ...	...	...	1 ...

APPENDIX E.

Hospitals for Women.

Kandang Kerbau Hospital, Singapore.

REPORT BY MR. C. V. NORRIS, *Assistant Surgeon.*

Lock Wards.

The following table shows the work done during the year:—

			Remained 31st Dec., 1909.	Admitted 1910.	Died.	Remaining 31st Dec., 1910.
Japanese	...	...	12	47	4	3
Chinese	...	...	20	62	13	20
Indian	...	...	1	14	2	1
Malay	...	...	...	1	...	...
Total ...			33	124	19	24

The average daily sick was 27·7 and death-rate 12·1 per cent.

Venereal affections accounted for 51 admissions with one death: there were 12 admissions for tuberculosis with 6 deaths.

Pauper Wards.

There were 222 admissions during the year which with 43 remained at the beginning of the year give a total treated of 265.

There were 59 deaths or 22·26 per cent: the daily average of sick was 37·4.

Nationalities of admissions :—

Europeans	...	...	...	...	4
Eurasians	...	...	...	...	18
Chinese	...	...	...	...	106
Malays	...	...	...	...	25
Indians	...	...	...	...	55
Others	...	...	...	...	14

As regards diseases the chief admissions were from :—

Tuberculosis	...	...	...	26	13 deaths.
Anæmia	...	...	...	14	2 „
Beri-beri	...	...	...	12	7 „
Malignant growths	...	...	...	10	5 „
Bronchitis	...	...	...	10	7 „

Penang.

REPORT BY DR. J. S. WEBSTER, *Medical Officer*.

This year all these patients have been warded in the upper storey of the female ward. There have been 148 admissions with 12 deaths as compared with 109 and 11 deaths in 1909. The chief causes of death was Phthisis. The majority of the patients are Chinese.

2. Number of cases with Venereal Diseases—88.

Number of Prostitutes with Venereal Diseases—88.

Nationality return of the Lock Hospital, Penang, for 1910.

Nationalities.			Remained.	Admitted.	Total.	Discharged.	Transferred.	Absconded.	Died.	Remaining.
Japanese	...	...	1	20	21	19	...	...	2	...
Chinese	...	...	7	92	99	80	...	...	6	13
Tamils	...	...	6	36	42	36	...	...	4	2
Total			14	148	162	135	...	...	12	15

Province Wellesley.

REPORT BY DR. W. S. SHEPPARD, *Medical Officer*.

There were no admissions under this head during the year.

Malacca.

REPORT BY DR. A. H. KEUN, *Medical Officer*.

Seven women were treated during the year, for Venereal Diseases.

APPENDIX F.

OUT-DOOR DISPENSARIES.

Singapore.

REPORT BY MR. F. CLARKE, *Assistant Surgeon*.

The number of patients who attended the dispensary was 11,216, an increase of 44 on the number for the previous year.

The Dispensary was opened 297 days, the average daily attendance being 113.62.

The fees collected amounted to \$3,185.05.

The principal diseases treated were:—

Malaria	...	...	...	...	2,379
Venereal Diseases	...	...	...	...	1,563
Rheumatism	...	...	...	...	328
Bronchitis	...	...	...	...	556
Dyspepsia	...	...	...	...	578
Ulcers	...	...	...	...	1,442
Injuries	...	...	...	...	458

The nationalities of the patients were:—

Europeans	...	...	...	...	61
Eurasians	...	...	...	...	752
Chinese	...	...	...	...	5,314
Malays	...	...	...	...	1,364
Indians	...	...	...	...	2,935
Jews and others	...	...	...	...	790

Penang.

REPORT BY DR. R. DANE, *Senior Medical Officer*.

Appended is a comparative statement of the work done during the past year.

The patients treated during the year 1910 numbered 8,328 as against 7,693 for the previous year, an increase of 635.

The Dispensary was open for 312 days during the year; the daily average number of visits being 52.99 as against 48.4 in 1909. The total receipts for the year amounted to \$1,047.45, against \$921.60 for 1909, the steady rise of these receipts during the last ten years from \$600 to \$1,000 indicated a steady rise amongst the poorer classes of their appreciation of the value of European medicines.

5. The principal diseases treated were:—

Malaria	...	...	...	...	655
Pyrexia	...	...	...	...	1,336
Rheumatism	...	...	...	...	722
Syphilis	...	...	...	...	97
Bronchitis	...	...	...	...	301
Diarrhœa	...	...	...	...	198
Dyspepsia	...	...	...	...	223
Ulcers	...	...	...	...	910
Injuries	...	...	...	...	587

The nationalities of those treated compared are as follows :—

			1909.	1910.
Europeans	...	...	47	58
Eurasians	...	...	276	243
Chinese	...	...	2,406	2,715
Malays	...	...	2,266	2,199
Natives of India	...	...	2,539	3,015
Others	...	...	159	98
Total	...		7,693	8,328

Dresser M. AERIA did duty till 7th November and was transferred to the General Hospital, being relieved by Dresser M. GOVINDASAMY.

Comparative statement showing the number of patients at the Government Out-door Dispensary, Penang, from 1901 to 1910.

—	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.
Number of patients attended	4,286	4,894	4,909	5,826	6,504	7,046	6,876	7,179	7,693	8,328
„ of visits paid	7,904	8,269	9,709	11,860	11,259	11,427	11,990	14,362	15,004	16,535
Patients treated free	1,214	1,700	1,500	2,026	2,624	3,353	3,095	3,077	3,436	3,519
Pauper patients	218	170	160	252	218	278	196	319	616	558
Paying patients	2,854	3,024	3,249	3,548	3,662	3,415	3,585	3,783	3,641	4,251
Average visits per diem	26.70	27.80	32.69	39.53	38.16	38.44	40.50	46.93	48.4	52.99
Number of days dispensary open	296	296	297	300	295	298	296	306	310	312
Receipts for the year	\$ 617.10	643.40	752.05	795.10	840.56	768.26	866.90	972.15	921.60	1,047 45

Return of Government Out-door Dispensary, 1910.

Months.	Total Patients.	Total Visits.	Pauper Patients.	Paying Patients.	Police Force.	Government Servants.	Free Patients.	Receipts.
January	605	1,084	38	306	165	70	26	\$ c. 81 65
February	608	1,100	42	278	203	77	8	68 45
March	656	1,352	44	332	194	71	15	80 55
April	768	1,422	49	432	197	80	10	105 05
May	733	1,282	45	399	191	82	16	93 20
June	672	1,411	36	368	190	57	21	88 25
July	730	1,449	43	372	207	90	18	90 10
August	758	1,477	48	358	245	92	15	88 60
September	716	1,471	36	342	222	89	27	86 35
October	680	1,444	43	312	201	90	34	76 80
November	680	1,494	61	359	140	98	22	90 60
December	722	1,549	73	393	163	73	20	97 85
Total	8,328	16,535	558	4,251	2,318	969	232	1,047 45

Balik Pulau.

During the year 714 patients presented themselves for treatment as compared with 583 for the previous year.

The following table gives statement of the work done:—

		1910.	1909.
Number of patients	...	714	583
„ Government servants	...	243	199
„ indigent patients	...	114	96
„ paying patients	...	357	288
„ males	...	498	389
„ females	...	216	194
„ visits	...	3,675	3,171
Average visit per day	...	8.86	5.96
Receipts for the year	...	\$43.50	\$43.45

The nationalities of those treated were:—

Nationality.	1910.		1909.	
	Males.	Females.	Males.	Females.
Europeans	2	3	5	11
Eurasians	4	4	8	11
Chinese	264	147	411	309
Malays	107	18	125	82
Natives of India	112	42	154	165
Others	9	2	11	5
Total	498	216	714	583

Dindings.

The out-door dispensary shows a poor attendance, only 569 patients presenting themselves for treatment, against 762 in the previous year. Fevers of mild type form the bulk of those treated. The receipt for the year amounted to \$47.68.

Province Wellesley.

The total number of attendances at the Out-Door Dispensaries at Butterworth Bukit Mertajam and Sungei Bakap was 3,933. At Bukit Mertajam the increase was 40 per cent on the previous year, at Butterworth 15 per cent. At Sungei Bakap, however, there was a small decrease.

Malacca.

OUT-DOOR DISPENSARIES.

During the year 3,660 cases were treated as contrasted with 2,775 cases of the previous year. The total receipts for the year was \$1,126.35 contrasting with \$701.70 of 1909.

Nationalities:—

	Males.	Females.
Europeans	141	57
Eurasians	563	495
Chinese	625	264
Malays	716	203
Natives of India	451	104
Others	...	41

Chief Diseases treated were:—Pyrexia 419, Bronchitis 293, Malarial Fever 280, Dyspepsia 156, Gonorrhœa 185, Beri-beri 199, Ulcer 133, Diarrhœa 116, Neuritis 105, Colic 97, Pharyngitis 90, Anæmia 96, Debility after fever 90, Asthma 81, Minor operations 19.

Jasin.

In 1910, there were 569 cases treated as against 651 of the previous year, while the receipts amounted to \$83.99 (in 1909 \$57.28). Here also malaria caused the larger number of cases treated.

<i>Nationalities:—</i>				<i>Males.</i>	<i>Females.</i>
				—	—
Europeans	...	...	...	20	5
Eurasians	...	...	...	7	7
Chinese	...	...	...	231	4
Malays	...	...	...	149	35
Natives of India	...	...	...	93	16
Others	...	...	...	1	1

*Chief Diseases treated:—*Malarial fever 189, Ulcer 114, Worms 28, Wound 26, Bronchitis 23, Constipation 23, Beri-beri 21, Ringworm 10, Myalgia 10.

Alor Gajah.

In 1910, there were 329 cases treated as against 332 in 1909 and the receipts were \$25.60 (in 1909 \$28.70).

<i>Nationalities:—</i>				<i>Males.</i>	<i>Females.</i>
				—	—
Europeans	...	...	...	Nil.	Nil.
Eurasians	...	...	...	13	1
Chinese	...	...	...	67	3
Malays	...	...	...	161	35
Natives of India	...	...	...	45	2
Others	...	...	...	2	Nil.

*Chief Diseases treated:—*Ulcer 109, Malarial fever 70, Rheumatism 35, Worms 26, Scabies 16, Bronchitis 14, Constipation 10.

APPENDIX G.**VACCINATION.****Singapore.**

1. The total vaccinations performed in Singapore during the year under report was 5,146.

2. The public vaccinator performed 2,795 vaccinations of which 1,796 were under one year of age. Of the total number vaccinated 1,325 were males and 1,469 females. Of these 1,988 operations were done within town limits and 807 in country districts.

3. Of the vaccinations performed by the public vaccinator all were perfect and the largest number of vaccinations was done in April, viz., 440.

4. In addition to the above 2,254 vaccinations were performed by licensed vaccinators, of which 2,155 were successful.

5. During the year the private Medical Practitioners reported 97 successful vaccinations done by them.

Penang.

The total number of vaccinations of infants and others collected by the Police of which the result is known during the year 1910, in the town and country districts of Penang, was 2,725, 90·90 per cent of these operations were successful. (But see Note A below table.

The sub-joined table shows the number vaccinated during the past five years and the number of births registered:—

YEAR.	Vaccinations in town and country districts.	Percentage of successful cases.	Total births registered.
1906	3,311	90·72	2,215
1907	2,753	95·20	2,310
1908	3,369	98·24	2,942
1909	3,020	97·25	2,706
1910	2,725 A	90·90	3,025

Six hundred and fifty-five cases were reported by the various Medical Practitioners in Penang as having been successfully vaccinated by them.

A.—This does not include the following vaccinations and re-vaccinations:—

10,694 done by Dresser SAMUEL.

5,283 done by Dresser LIM TAI LEE.

1,067 done at the Jail by Dresser.

799 done by Dresser WAN CHEE.

432 done by Dresser EDWARDS.

12,205 done at the Quarantine Station, Pulau Jerejak.

607 done at the Quarantine Camp, Jelutong.

31,087

The results of these operations, performed for the most parts on highways and by-ways, where cases of small-pox had occurred or might occur, could not be ascertained.

Besides these, others were done by other members of the staff. And the Private Practitioners were very busy vaccinating and re-vaccinating patients, who did not keep their promise to come again in a week's time and of whom therefore the result of the operation is also unknown.

Province Wellesley.

Number of cases vaccinated was 7,121 (3,920 males and 3,201 females).
Table showing Nationalities.

I		Europeans.	Eurasians.	Chinese.	Malays.	Indians.	Others.	Total.
Perfect	...	...	47	712	4,249	626	26	5,660
Modified	...	1	3	34	257	45	1	341
Failed	...	2	9	62	345	59	1	478
Not seen	...	4	7	41	392	198	...	642
Total	...	7	66	849	5,243	928	28	7,121
Percentage of failures to total vaccinated		28.57	13.63	7.3	6.58	6.35	3.57	6.71

Percentage of Failures to Total Vaccinated.

Northern.	Central.	Southern.	For the three Districts.
6.32	8.99	4.66	6.71

Malacca.

Number of Children and others Vaccinated in Country and Town during the Year 1910.

Nationality.		TOWN.		Nationality.		COUNTRY.		Grand Total.
		Number Vaccinated.	Total.			Number Vaccinated.	Total.	
Europeans	...	4	} 1,330	Europeans	...	2	} 4,433	5,763
Eurasians	...	124		Eurasians	...	9		
Chinese	...	656		Chinese	...	333		
Malays	...	464		Malays	...	3,925		
Indians	...	61		Indians	...	156		
Other Nations	...	21		Other Nations	...	8		

Difference of Sexes of those Vaccinated during the Year 1910.

	Number Vaccinated.	PERFECT.		MODIFIED.		FAILED.		NOT SEEN.		TOTAL.		Percentage of Successful to total Vaccinated.	Percentage of Failures to total Vaccinated.
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.		
Europeans	...	2	1	3	5	1	88.28	11.05
Eurasians	...	57	40	5	2	17	11	1	...	80	53		
Chinese	...	463	346	23	13	87	36	18	3	591	398		
Malays	...	1,951	1,716	151	124	277	159	7	4	2,386	2,003		
Indians	...	118	39	13	...	34	8	5	...	170	47		
Other Nations...	...	12	12	...	...	3	2	...	...	15	14
Total	...	2,603	2,154	192	139	421	216	31	7	3,247	2,516		

APPENDIX H.

Quarantine.

REPORT BY DR. G. E. BROOKE, *Port Health Officer, Singapore.*

1. *Port*.—During the year 1,920 visits were paid to vessels, which included the examination of 103,148 crew units, and of 364,720 passengers.

2. Of these ships, 51 were infected as follows :—

Plague	...	...	...	...	...	5
Cholera	...	...	...	...	...	20
Small-pox	...	...	...	...	...	26

Seven of these small-pox infections occurred on ships returning from Jeddah.

3. The disinfecting lighter *Hygeia* was used for disinfecting on 86 occasions, this total including the disinfection of outward-bound ships clearing for Australia. From January, 1911, a definite scale of disinfection charges will come into force, under which the fees will be fixed at \$2.50 for each 100 tons register; half fees being charged in case of partial disinfection, and double fees for night work.

4. The *Hygeia* was also, as usual, found to be very useful for transport service in her spare time, and, on 20 occasions, was used for changing the monthly police guard at the Quarantine Station, and for the transport thither of heavy stores.

5. Six visits were paid through the year to the Island of Pulau Brani for sanitary inspections of the Government Marine Department quarters and their surroundings. They were generally speaking found to be clean and in good order. One case of small-pox occurred there in July; the case, with immediate contacts, was sent to the Quarantine Station, the quarters were disinfected, and all the boats' crews vaccinated. No further cases occurred. There were a few cases of malaria during the year, but less than in many previous years. The main drinking well showed good water on analysis. The main tidal swamp is being slowly reclaimed by waste material from the smelting works. It would be advisable if possible that the native kampong be gradually evicted, say three or four houses yearly; they serve to keep up the supply of malaria. This would cause the least inconvenience, and would conveniently distribute the necessary compensation.

6. By courtesy of the Marine Department, the state of health of all incoming vessels, not in quarantine, was ascertained by written certificate of master or surgeon. Thus the health of every ship arriving in the port is at once known to the Port Health Officer.

The numbers on such certificates amounted to 241,429 crew, and 239,162 passengers.

Thus, including the ships in quarantine mentioned in paragraph 1, the arrivals for the year 1910, amounted to 344,577 crew, and 603,882 passengers, *i.e.*, a total of 948,459 persons.

7. Cases of deaths occurring on steamers or sampans in the port numbered 39. All these were investigated. In 34 of them permit was given to bury (Govt. Form D. 134); the other 5 cases being suspicious were sent to St. John's for post-mortem examination, and were subsequently buried there.

8. Permission to export bodies for burial in China, or to import bodies for burial here was given in 33 instances, on the Government blue form used for that purpose, the proper formalities as to disinfection and sealing of the coffin having in each case been complied with.

9. The ships of the local mosquito fleet (*i.e.*, local-trading steamers of under 300 tons register) were inspected at intervals throughout the year, 59 visits being paid to 43 vessels. These surprise visits tend to make the native masters more careful as to the purity of their water supply and cleanliness of their steamers.

10. The impermanence of the staff and pressure of work prevented any of the usual sanitary inspection of the rivers, which should really be done every month.

11. A large amount of work was done throughout the year, in the inspection of water-boats which supply the shipping in harbour. The larger steamers which come

here are supplied by steam water-boats, of which Hammer & Co. have five, and Gaggino & Co. four. The smaller shipping in the harbour is supplied by hand-propelled sampans, registered as water-boats. Of these there are about 120. Seventy-two of them were examined during the year. Six samples of water were analysed in the Port Heath Office laboratory. In all cases where the boat or water was in any way dirty, a preliminary cleansing and fresh supply of water was insisted on, before re-registration for the year was sanctioned. The Port Health Officer is greatly hampered in this important matter, by having no section under the Quarantine Rules on which a prosecution for supplying dangerous water can be based. This was embodied with other required amendments of the rules, in September last, but has not yet met with approval. This is a matter in which delay should be avoided, if possible, as it concerns the health of many people.

12. Considerable inconvenience is sometimes caused to big shipping firms by the lack of disinfecting facilities in Penang. A ship that is infected, has to come on to Singapore for disinfection; and then, if there is cargo for Port Swettenham, she has to retrace her steps to that port, thus entailing considerable delay and expense.

In a port of the size of Penang, dealing with much Indian immigration, a disinfecting lighter, similar to our *Hygeia*, would be very useful.

13. Over 4,000 passports are issued annually on board ships, to cabin passengers, coming from ports in quarantine, or from an actually infected ship. In 1910, these passes dealt with more than 8,000 people, of many nationalities.

For this work, entailing much clerical labour and interpreting, no interpreter or clerk is allowed. An office peon at a salary of \$11 per month is the sole substitute for the interpreter, while the Port Health Officer has to do all the writing, as well as the medical examination of the whole ship. In the case of an important passenger steamer, this means an unnecessary delay of about an hour.

14. *Quarantine Station*.—The quarantine station was in occupation during every day of the year.

15. The total number of passengers landed numbered 35,062 as compared with 15,072 of the previous year. This large increase was partly due to the fact that most of the neighbouring ports in Java were infected with cholera throughout the year, thus entailing the quarantining of many small batches arriving continually.

16. The maximum number on any day was 5,518.

17. The total sick treated in hospital were 1,372; the daily average being 45.73, and the maximum on any day, 85.

18. The total number of deaths amounted to 242; and death-rate 17.64.

19. The rainfall was 104.26 inches.

20. Vaccinations were done on the station to the number of 12,129.

21. Throughout the year the distilling plant worked well, and was kept in excellent order by the engineer.

Water (distilled) for drinking and cooking, was supplied through the whole year without having to obtain any from Singapore.

The water in the reservoir on the 1st January, was 48,840 gallons; and during the year 1,022,766 gallons were condensed.

The mean daily average of supply was 3.7 gallons per head daily.

22. In addition to this, four large rain-water tanks to each ward supply plentiful rain-water for washing purposes.

23. To accommodate the Municipality, we remove their infectious diseases contacts to the quarantine station for observation. During the year the number so removed were:—

Cholera contacts	...	...	...	...	433
Plague „	...	...	...	...	39
Small-pox „	...	...	...	...	932

24. Cholera having broken out in the Lunatic Asylum in July, and apparently beginning to spread rapidly, 194 of the inmates were sent to the quarantine station at St. John's Island in order to prevent any possible spread in the town. They arrived on the 23rd of that month, and although a virulent infection amongst

the class of person especially liable to infection, the outbreak was completely stopped in the short time of eleven days. Whilst on the station there were in all 39 cases with 30 deaths. The majority were sent back to Singapore on the 23rd August, leaving a few still in hospital who left on the 5rd September.

25. Possibly to a visitor, used to a white-tiled laboratory, and not conversant with practical field-sanitation, a quarantine camp, such as St. John's, might convey an idea of uncleanness. That such, however, is not really the case, and that the measures for segregation and disinfection prompted by the experience of many years are sound in practice, is proved chiefly by our epidemiological results; and additional support was furnished by a surprise visit of the Government Bacteriologist, who, just after epidemic cholera from four different ships had been prevalent on the Island for some weeks, took smears from contact wards, latrines, wells and even from the cholera ward vacated only a few hours before, and in no case was the cholera vibrio isolated.

We have found during the last two years that by far the most generally useful, efficient, and economical disinfectant for practical camp work, is the product known as "Sanitas Okol," which is manufactured by the Sanitas Co. of Locksley Street, Limehouse. It is one of the coal-tar products, but is already emulsified, and consequently is not decomposed in the presence of chlorides, as are the Jeyes fluid type, and can be used with sea-water as a diluent, which is a distinct advantage on occasions.

26. No public works of any importance have been undertaken on the quarantine station during the year. Steady work has however been carried out by our staff on the reclamation of the main swamp. About two-thirds of this work is already completed, which has saved the Government about \$1,000 of expense.

27. In the middle of September, I secured a few rubber trees from the Singapore Economic Gardens and planted them in suitable situations in the Island where they will be useful for shade and ornamental purposes.

28. I am hoping shortly to have an experimental area planted up with the "Soy Bean." The marvellous dietetic value of this bean, containing as it does Proteid 35.3 per cent, Carbohydrate 26 per cent, fat 18.9 per cent, and salts 4.6 per cent, has led me to think that, if it will grow readily here, we should have a cheap product as a native supplement to a rice diet, and thus supply the deficiency which is supposed to be a factor in the production of beri-beri.

29. *Office and shore work.*—As Deputy Health Officer for the Island of Singapore, (extra-municipal) and for the various Government offices and quarters within the town, the control of the sanitation and of infectious disease is dealt with by my department.

This district is equal in area to the Isle of Wight, and if disease occurs in the outlying parts, a considerable distance has to be covered.

During the year 46 cases of infectious disease in out-districts were so dealt with, comprising:—

Small-pox	...	...	...	...	...	40
Cholera	...	...	...	...	...	6

This work included the removal of the cases to the Isolation Hospital at Tan Tock Seng, transport of the contacts to the quarantine station at St. John's Island, and the disinfection of infected material and houses, in each case as necessary.

The want of a departmental motor car for this service is much felt. When available the Public Works Department motor car is secured; and on other occasions a car is hired.

30. In addition to the above definite cases of disease, on three occasions long searches were made through the distant country-side, to find out if infectious disease existed in certain localities suspected by the Municipal Health authorities.

31. Owing to impermanence of staff and pressure of other work, no routine sanitary examinations of country villages, or of Government Departments and quarters within the town could be carried out. This is a pity, for every place should be visited at least twice yearly by a sanitary officer.

32. In the Port Health Office itself, various sick members of the Marine, Veterinary and Shipping Departments are treated as out-patients. In 1910, 160 were so treated, comprising :—

Surgical cases ...	...	...	...	...	13
Malaria ...	...	...	...	...	80
Other complaints ...	...	...	...	...	67

33. In addition to the water analysis mentioned in paragraph 11, a considerable amount of work was done in the office laboratory, chiefly pathological. Malarial blood-films were made in 189 cases. Many smears were examined microscopically, and a considerable number of cultures made of organisms. A new microscope and an analytical balance were procured during the year, and a small water centrifuge was installed.

34. Bills of health to the number of 1,334 were issued by the department. A stamp fee of \$5 is charged for each, thus bringing in a considerable revenue to the Government.

35. *Staff.*—In the Port Health Office a succession of Medical Officers came to act as Assistant Port Health Officers, viz. :—

Dr. ROBINSON, January 1st to March 18th.

Dr. WEBSTER, March 19th to April 4th.

Dr. WHITTLE, April 15th to July 8th.

Dr. BRUCE-LOW, July 9th to October 1st.

Dr. SUGARS, October 2nd to October 17th.

Dr. BRUCE-LOW, October 18th to December 26th.

Nil. December, 27th to December 31st.

The following were the changes in the Assistant Surgeon staff during the year :—

Mr. A. C. SEN, January 1st to January 27th.

K. APPADURAI, January 28th to July 31st.

Mr. A. C. SEN, August 1st to September 10th.

K. APPADURAI, September 11th to October 20th.

A. L. WILLIAMS, October 21st to December 31st.

36. When it is considered that a staff of three only are expected to control the shipping of the sixth largest port in the world, the maintenance of one of the largest quarantine stations in existence, and the sanitary control of an island the size of the Isle of Wight, it will be realized that a constant succession of officers who know nothing about this highly specialized work, who care less, and who only remain for a month or two, makes it almost impossible for the head of the department (who is the only permanency) to secure even ordinary continuity of routine, much less that progressive development which should be a *sine qua non* in a port of such magnitude as Singapore.

37. In the month of February, I was sent to Manila as Government delegate from the Straits Settlements to a Congress of the Far Eastern Association of Tropical Medicine, during which time Dr. GIBBS kindly took charge of the department for me. The Congress was attended by many delegates from all parts of the East, and many interesting discussions took place, especially on one day which was devoted entirely to beri-beri.

38. The year has not been marked by the publication of many books of importance in port health work. Three, however, of considerable interest have appeared, and have been added to the office library :—

“Manual of Tropical Medicine,” by CASTELLANI & CHALMERS.

“Diseases of China” by JEFFREYS & MAXWELL.

“Naval Hygiene” by GATEWOOD.

The last named is the only book yet published which is devoted to the special subject of Marine Hygiene; and, though it is a book about equal in size to “NOTTER & FIRTH,” yet it barely deals with a quarter of the usual marine and port work.

39. Appended is a résumé of the last eight years' work of the department.

Résumé of the past Eight Years' Work.

YEAR.			Crews and passengers examined.	Passengers sent to St. John's Island.	Visits to Vessels.	Bills of Health issued.	Small-pox cases treated.	Cholera cases treated.	Plague cases treated.	Inoculation with Haffkine.	Vaccinations at St. John's.
1903	...	...	321,365	21,253	806	1,000	19	271	136	761	140
1904	...	...	279,297	17,852	712	1,036	46	Nil.	9	745	4,623
1905	...	...	323,431	12,109	1,279	1,220	62	2	5	223	2,586
1906	...	...	493,021	30,076	1,625	1,674	37	319	2	113	6,963
1907	...	...	377,326	25,408	1,226	1,318	37	28	Nil.	Nil.	3,157
1908	...	...	303,484	29,356	1,506	1,344	52	36	3	Nil.	9,016
1909	...	...	291,625	15,072	1,251	1,299	17	Nil.	Nil.	Nil.	1,084
1910	...	..	467,868	35,062	1,920	Nil.	55	182	13	Nil.	12,129
Total			2,857,417	186,188	10,325	8,891	325	838	168	1,842	39,698

QUARANTINE.

Penang.

REPORT BY DR. J. C. C. FORD, *Medical Officer.*

Harbour.—During the year visits were made to 526 vessels with 49,751 crew units, and carrying 168,216 passengers.

The number of pilgrims embarking at this port for Mecca was 402 and 5 vessel, were inspected and cleared for Camaran and Jeddah, under the Pilgrim Ships' Ordinance. Seven vessels with Hadjis returning from the Hedjaz arrived during January, February, March and April, 5 of these "return vessels" were infected with Small-pox and one with Bubonic Plague (Femoral glands).

In Statement *A* will be found the number of vessels and passengers inspected in each month of the year.

In Statement *B* is shown the number of vessels arriving from ports subject to the quarantine restrictions during 1910.

Two corpses (deaths on vessels in the harbour) were viewed and permits granted for burial on shore. Death in both cases was due to Pulmonary Phthisis.

Cholera.—During the months of June, July, August and September, cholera was imported from Negapatam, Amoy, and Rangoon. Six cases were removed from Negapatam vessels—one (crew) from a vessel from Amoy; this vessel had the infection on board at the time of arrival at Singapore—and one case from Rangoon vessel

Small-pox.—As usual the large majority of small-pox cases arrived from Jeddah on pilgrim vessels. In all, 54 cases were removed from vessels as follows:—

From Jeddah	...	...	...	...	46 cases.
„ Negapatam	..	...	...	...	4 „
„ Hongkong	...	...	...	...	1 „
„ Deli (Sumatra)	...	...	...	...	1 „
„ Calcutta	...	...	...	...	1 „
„ a local launch	...	...	...	...	1 „

Plague.—Two cases—Bubonic Plague—were removed. One case from a vessel from Jeddah, and the other from a vessel from Bombay.

Quarantine Stations, Pulau Jerejak.—The station was in continuous use during the year. The number of passengers detained for observation, treatment, etc., from 272 vessels was 71,876. This is the largest number detained in quarantine during the last ten years. The majority of these passengers in quarantine were coolies imported from India for estate work, the immigrant vessels from Negapatam bring to the Settlement as deck passengers (a) those who pay their own passage and (b) those who are intended for estate work and who are state-aided. It is rare to find cholera among the former class (a); the majority are fairly well-to-do and are a better class of native. The state-aided coolies arrive in a filthy state, with filthy clothing and garbage and that they are cholera infected is more than probable, because during the months—June to September—when there was a rush of coolies to the Native States, there were epidemics of cholera on the estates, when the voyage from Negapatam was free from cholera or any suspicion of such and the 5-day-limit incubation period was exceeded. As a radical measure all state-aided coolies are now landed on the Quarantine Station, and released for distribution to the estates, after being re-clothed, and having their filthy clothes and garbage destroyed. Since these measures were adopted, the epidemics of cholera on the Estates, in Province Wellesley, Perak and Selangor, have ceased.

The maximum number in detention on a single day was 5,574. The average daily occupation was 1,584.

Statement C shows the particulars of work on the quarantine station in each month of the year.

Necropsies.—Five corpses were examined post-mortem.

Vaccination.—The total number of vaccinations performed was 12,205. All contacts and unprotected passengers are vaccinated. Coolies for Estates in Perak are vaccinated by a Perak Dresser doing duty on the Leper Asylum—the vaccine lymph, being supplied by Perak. Coolies for Selangor Estates are not vaccinated on the Quarantine Station, except when there is infection among them, when Selangor sends a dresser and vaccine lymph. In all other cases these coolies are vaccinated at Port Swettenham.

Staff.—Mr. BRUCE carried on the duties of Assistant Surgeon continuously during the year, in addition to his duties as Assistant Surgeon, Leper Asylum. An additional Apprentice Dresser was taken on in October. The work on the Quarantine Station during the year 1910, was the heaviest it has ever been; Mr. BRUCE and the whole subordinate staff of Dressers, Campmaster, etc., did their duty thoroughly, conscientiously and willingly throughout an exceptionally busy year, however great the pressure, and however long the hours, and under circumstances far from ideal.

STATEMENT A.

MONTHS.			No. of Vessels.	Crew Units.	No. of Passengers.
January	...	...	42	4,253	10,102
February	...	...	37	3,770	9,186
March	...	...	41	4,433	13,728
April	...	...	41	4,059	16,025
May	...	...	41	3,934	17,167
June	...	...	52	4,553	19,575
July	...	...	64	5,223	18,058
August	...	...	44	3,727	12,395
September	...	...	44	3,956	14,591
October	...	...	39	4,179	13,696
November	...	...	37	3,690	12,063
December	...	...	44	3,974	11,630
Total ...			526	49,751	168,216

STATEMENT B.

					Vessels.
<i>India :—</i>					—
Bombay	...	...	...	...	66
Calcutta	...	...	...	...	86
Negapatam	...	...	...	...	51
Rangoon	...	...	...	...	118
Moulmein	...	...	...	...	17
<i>China :—</i>					
Hongkong	...	...	...	...	81
Amoy and Swatow	...	...	...	...	44
<i>Arabia :—</i>					
Jeddah	...	...	...	...	6
<i>Siam :—</i>					
Trang and Coast (West)	...	...	...	...	19
<i>Egypt :—</i>					
Port Said	...	...	...	...	1
<i>Sumatra :—</i>					
Deli	...	...	...	...	26
Sabang	...	...	...	...	1
<i>Straits Settlements :—</i>					
Singapore	...	...	...	...	8
Local	...	...	...	...	2
Total				...	526

STATEMENT C.

—	Jan.	Feb.	Mar.	Apl.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Vessels	20	23	26	27	23	26	22	22	27	18	14	24
Passengers	1,354	3,001	4,592	4,736	8,184	10,511	7,291	10,333	10,291	7,303	4,280	5,418
Daily average	212	637	778	1,061	1,856	1,826	2,339	1,399	1,788	2,350	1,420	3,340
Small-pox admitted.	16	29	3	1	...	...	1	...	1	1	...	2
„ Fresh cases.	...	5	1	1	...	...	...	...	...	1	...	...
Cholera admitted	...	...	...	...	...	1	1	2	2	...	...	...
„ Fresh cases.	...	...	...	...	...	...	24	1	2	...	...	...
Plague admitted	...	...	1	...	1	...	...	...	...	...	...	...
Chicken-pox admitted.	2	2	1	3	...	6	2	...	1	6	2	1
Deaths, Small-pox	2	7	1	1	1	...	...	...	1	...	...	1
Deaths, Cholera	...	...	...	...	...	...	21	2	3	...	...	...
Deaths, Plague	...	...	...	...	...	...	...	...	...	...	...	...
„ other diseases.	4	5	3	1	1	4	17	16	4	...	2	1
Corpses landed	1	2	...	...	...	...	...	...	...	...	...	...
Necropsies	3	1	...	...	...	1	...	...	...	...	...	...
Vaccinations	275	308	1,841	1,823	1,762	560	...	87	4	1,930	1,209	2,406

Condensed résumé of Ten Years' Work—Harbour and Quarantine Station.

—			Vessels.	Crew and passengers examined.	Passengers landed on Quarantine Station.	Small-pox treated.	Cholera treated.	Plague treated.	Mean daily average Quarantine Station.	Vaccinations.
1901	...	...	1,309	200,186	2,188	3	3	1	...	...
1902	...	...	1,000	180,632	5,755	5	42	...	...	...
1903	...	...	957	180,251	1,688	9	22	1	...	...
1904	...	...	748	184,691	2,217	16	5	2	...	...
1905	...	...	869	214,136	10,406	10	1	...	171	...
1906	...	...	675	204,988	23,288	16	8	2	461	6,490
1907	...	...	633	219,839	17,650	4	24	1	116	5,652
1908	...	...	1,205	176,119	21,175	51	9	2	366	5,691
1909	...	...	503	161,971	23,058	25	2	1	359	5,614
1910	...	...	526	217,967	71,876	62	33	2	1,584	12,205

RAINFALL—PULAU JEREJAK—1910.

1910.	—			Amount.	No. of rainy days.
January	...	...	...	3'57	6
February	...	...	...	7'36	8
March	...	...	...	3'84	10
April	...	...	...	7'40	13
May	...	..	...	13'25	13
June	...	...	...	7'57	12
July	...	...	...	4'67	9
August	...	...	...	8'50	11
September	...	...	...	4'80	11
October	...	...	...	9'86	18
November	...	...	...	12'10	20
December	...	...	...	5'69	12
				88'61	143

Greatest rainfall in one day—1'95 on the 13th of August, 1910.

APPENDIX I.

Government Analyst's Department, Singapore.REPORT BY MR. J. C. COWAP, B Sc., A. I. C., *Acting Government Analyst, S. S.*

The work of this department continues to show an increase.

The following table shows the revenue and expenditure for the year 1910, and for comparison the revenue for the preceding year is inserted. As this department has been short-handed during the greater portion of the year a considerable amount of revenue-producing work has had to be refused.

Revenue.	1909.	1910.	Expenditure 1910.	—
	\$ c.	\$		\$ c.
Petroleum Inspection Fees ...	4,790 00	5,045	Personal Emoluments	11,514 55
Government Analyst's Fees ...	6,735 50	7,970	Chemical Stores from England ...	521 53
Total ...	11,525 50	13,015	Miscellaneous Expenses ...	346 33
			Transport, Travelling, etc. ...	372 87
By Sales of Pyridine ...	139	204'16	Total ...	12,755 28

Petroleum.

(a) *Kerosine*.—During 1910, there was a slight decrease in the total number of consignments and in the number of tins imported, while there was a very considerable falling off in the amount of bulk oil.

The following statement gives a comparison between the quantities imported during the two years under consideration :—

Description of Oil.		1909.			1910.		
		Number of Consignments.	Tins.	Tons.	Number of Consignments.	Tins.	Tons.
<i>Case Oil.</i>							
American Oil	Devoes ...	5	180,000	...	3	111,000	...
	Sylvan ...	4	130,000	...	5	175,224	...
	Cock ...	2	13,000	...	...	...	...
Langkat Oil	Cross ...	49	175,947	...	17	44,512	...
	Crown ...	59	231,335	...	67	243,534	...
	Dragon ...	20	388,500	...	32	449,554	...
	Lamp Glass..	15	56,182	...	14	39,258	...
	Rising Sun...	...	...	...	13	39,485	...
Rangoon Oil	Silver Light..	2	8,927	...	1	1,960	...
	Gun ...	1	6,524	...	1	2,501	...
	Umbrella ...	1	15,768	...	1	2,963	...
	Watch ...	...	...	...	1	13,885	...
<i>Carried forward</i> ...		158	1,206,183	...	155	1,133,576	...

Description of Oil.	1909.			1910.		
	Number of Consignments.	Tins.	Tons.	Number of Consignments.	Tins.	Tons.
<i>Brought forward</i> ...	158	1,206,183	...	155	1,133,576	...
<i>Bulk Oil.</i>						
Balik Papan ...	4	...	7,138	2	...	3,770
Palembang... ..	1	...	514	1	...	508
Palau Samboe ...	15	...	551	19	...	754
Soe Soe	4	...	10,840	1	...	900
Borneo	1	...	3,451	...	...	...
Pladjoe	1	...	500	1	...	500
Foo Chow	1	...	800	...	...	...
Total	185	1,206,183	23,794	179	1,123,876	6,432

Two consignments, representing 61,750 gallons of mineral turpene, were imported and found to flash at 82°.

In no case was petroleum, not previously declared to be dangerous, found to flash below the local standard.

Fifty cargoes were tested and certificates issued for petroleum consigned to Sarawak, Hongkong, Penang and Colombo in order to avoid delay at these and intermediate ports.

Four samples of petroleum were sent up to be tested by the standard instrument kept in this Laboratory.

Two samples of crude oil were reported on as to their commercial value.

(b) *Dangerous Petroleum*.—On all importations the receptacles containing dangerous petroleum were examined and were found to meet the requirements of the Ordinance.

(c) *Petroleum Residue*.—Nineteen consignments representing 43,612 tons were imported at Pulau Bukom as against nine consignments of 17,111 tons during the preceding year. All the samples were found to flash at a temperature above 150° F.

(d) *Tank Testing*.—Thirty-five vessels which had carried petroleum were tested for vapour by means of Redwoods Standard Instrument before being allowed to enter dry dock.

(e) In May, seven men on entering the after cofferdam of the tank steamer *Conch* lost consciousness and fell to the bottom. It was shown by analysis that the air in the tank was greatly deficient in oxygen and that no trace of petroleum vapour or any other harmful gas was present.

Further investigations proved that this deficiency of oxygen in the tank air was due to its absorption by the iron plates of the cofferdam during the process of rusting.

Explosives.

Thirteen consignments of explosives comprising 3,901 packages of gelignite, 314 of dynamite and 800 of blasting gelatine were tested on importation into Singapore, in accordance with the Rules under "The Explosives Ordinance 1899."

All passed the prescribed tests.

Counterfeit Coins.

(a) *Britannia Metal*.—Twelve sets of exhibits in connection with the counterfeiting or uttering of base coin were sent for examination by the police.

The total number of coins examined was 216 which comprised 18 dollars, 111 fifty-cent pieces, 53 twenty-cent pieces, 79 ten-cent pieces and one five-cent piece.

Several complete outfits for the manufacture of counterfeit coins were sent for examination. One such outfit contained 406 genuine old Straits dollars and five of the new one-dollar pieces.

In several cases stains produced by the silver nitrate and nitric acid used in making the coins were found on the persons of the accused.

(b) *Silver*.—Twenty-two silver coins were sent for assay, of these 17 were one-dollar pieces, 15 being spurious.

The remaining five were ten-cent pieces which were found to be genuine but badly made.

In this connection may be mentioned exhibits in a case of attempting to counterfeit currency notes. These consisted of lithographic stones bearing the impression of a \$10 note, wooden stamps and lithographic paper, press ink, etc.

Minerals.

Eighty-nine minerals were reported upon.

Details are given in the subjoined table.

Table of Minerals

Wolfram.	Tin.	Coal.	Galena.	Gold.	Earth con- taining no minerals.	Titaniferous iron ore.	Pyrites.	Scheelite.	Total.
59	9	1	6	2	8	2	1	1	89

Liquors.

One hundred and sixteen samples of liquors were sent for analysis. These consisted of brandy, whisky, gin, rum, port, Chinese spirits, etc.

Thirty-seven of these were sent for the determination of spirit strength only.

The remaining 76 consisting almost entirely of European spirits required a complete analysis for quality.

In this latter division are included 40 samples of spirits which were examined for the Board of Licensing Justices, before the various brands could be included in, or excluded from, the list of liquors allowed to be sold in public-houses.

Methylated Spirits.—One hundred and ninety-five casks, 49 drums and 744½ cases of arrack were methylated by the addition of pyridine or turpentine.

Deleterious Drugs.

(a) *Police Seizures*.—There has been a considerable decrease during 1910, in the number of deleterious drugs cases sent in for examination. The number of sets of exhibits was only 25, against 53 in 1909.

The total number of separate articles was 294, comprising the usual packets of morphine and cocaine salts, hypodermic syringes, etc.

The amount of morphine hydrochloride found in these cases was 6,397 grains, but of this quantity over 6,000 grains occurred in a single case.

The amount of cocaine hydrochloride was 41 grains.

(b) *Excise Seizures*.—Five sets were sent in by the Preventive Service. The morphine hydrochloride amounted to 27 ounces, and the cocaine hydrochloride to five-eighths ounce.

Toxicology.

(a) *Stomachs, etc.*—On twenty-six occasions stomachs, stomach washings, etc., were sent from the Singapore hospitals for investigation.

Details are given in the following table:—

Where from.	Opium.	Morphine.	Arsenic.	Alcohol.	Ptomaines.	No poison pre-sent.	Total.
General Hospital, Singapore ...	2	1	...	1	1	6	11
T. T. S. Hospital, Singapore ...	2	1	1	1	1	9	15
Total ...	4	2	1	2	2	15	26

(b) *Other Poisoning Cases.*—Eleven sets of exhibits in cases of attempted poisoning, suicide, etc., were sent in, mostly by the Police.

In five cases arsenic was found, in one chandu, and in one morphine.

In one lot of exhibits occurred a remarkable number of narcotic drugs—morphine, cocaine, chloroform, chloral and sulphonal.

Medicines.

Ten samples of various medicines were examined. These included four bottles of chlorodyne and imitations of chlorodyne and three Japanese patent medicines sold locally.

Bloodstains.

Nine exhibits were sent by the Police. On one only was blood found.

Urine.

Twenty-eight samples were sent in, chiefly for the estimation of albumen, sugar and the ammonia coefficient.

Water.

Twenty-two samples of water were received for analysis. These came from Singapore, Malacca, Province Wellesley, British North Borneo, Labuan and Johore. Seven were condemned as being sewage contaminated.

Six samples were reported upon as regards their possible action on boilers.

Oil Cakes.

Reports were issued on ten samples of copra cake.

Gutta Percha.

Twelve samples of gutta percha were sent in for analysis and reported on.

Miscellaneous.

A large number of odd samples were sent in for examination. These included 22 samples of soil, 16 of mud, 22 of ascitic fluid, as well as bhang, guano, toddy, salt fish, coconut oil, milk, various drugs, rice, rubber rings, chandu, etc.

Staff.

Mr. A. M. BAILEY was appointed Second Assistant Government Analyst and assumed duties on February 8th. On September 1st, Dr. DENT, Government Analyst, went on leave and I was brought from Penang to take his place, Mr. HADDON, Assistant Government Analyst, going to Penang to act as Deputy Government Analyst, Penang.

Government Analyst's Department, Penang.

REPORT BY MR. J. W. HADDON, B. SC., A. I. C., *Acting Deputy Government Analyst, Penang.*

The work of this Department for 1910, shows a considerable relative increase over the 7 months it was in existence in 1909.

The number of reports on general analytical work issued during 1910 was 399, while 69 reports of petroleum tested were issued during the same period.

The total revenue was \$4,037.10, compared with \$2,189.54 collected during the last 7 months of 1909.

Subjoined is a table giving details of the revenue and expenditure for 1910. Details of the corresponding items of revenue for the last 7 months of 1909 are included for comparison.

Revenue.	1st June to 31st December, 1909.	1910.	Expenditure 1910.
	\$ c.	\$ c.	\$ c.
Petroleum inspection fees	1,697 00	2,440 00	Personal Emoluments 4,483 00
Government Analyst's fees	207 00	927 00	Stores ... 184 27
Certificate for export of petroleum fees ...	285 25	669 50	Miscellaneous ... 183 71
Deposit Account ...	0 29	0 60	Transport, Travelling & Personal Allow- ances ... 73 48
Total ...	2,189 54	4,037 10	Total ... 4,924 46

It will be noticed that the increase in the Government Analyst's fees and fees for export of petroleum certificates has more than compensated for the loss of revenue due to the falling off in the fees received for petroleum inspection.

Petroleum.

(a) *Kerosine*.—During 1910, there was a small relative increase in the number of tins, but a large diminution in the quantity of bulk oil imported, compared with the last 7 months of 1909.

The following table gives a comparative statement of the quantities imported during the two periods :—

Description of oil.	1st June—31st Dec., 1909.			1910.		
	No. of Consignments.	Tins	Tons.	No. of Consignments.	Tins.	Tons.
<i>Case oil.</i>						
American oil ... { Devoes	1	15,000	...	3	45 000	...
... { Sylvan Arrow	2	55,000	...	4	187,018	...
Langkat oil ... { Crown	5	48,276	...	2	45,084	...
... { Dragon	17	211,600	...	20	353,850	...
... { Lamp Glass	6	15,523	...	7	19,028	...
Burma oil { Watch	1	35,331	...	2	84,946	...
... { Umbrella	2	22,775	...	2	33,008	...
... { Gun	2	5,085	...	1	4,500	...
<i>Bulk oil.</i>						
Aroe Bay ...	...	...	...	1	...	510.9
Balik Papan ...	1	...	310	4	...	1,522.3
Pulau Brandan ...	1	...	629	1	...	368.2
Pulau Bukum ...	1	...	357.5	...	...	...
Pulau Samboe ...	1	...	510	1	...	541
Pulau Soe-Soe ...	1	...	5 285	8	...	4,206.4
Total ...	41	408,590	7,091.5	56	772,434	7,148.8

On no occasion was petroleum, not previously declared to be dangerous, found to flash below the local standard (73° F.), although several consignments were found to flash at 73° F. exactly.

(b) *Dangerous Petroleum.*—Ten consignments of dangerous petroleum were imported, and in every case the receptacles containing the same were examined and found to comply with the Ordinance and Rules thereunder.

(c) *Petroleum Residue.*—Three consignments representing 6,798 tons were imported during 1910, compared with one consignment of 5,410 tons during the 7 months ending December 31st, 1909. The samples all flashed at temperatures above 150° F.

Explosives.

Three consignments of explosives comprising 800 packages of gelignite, 20 of blasting gelatine, 40 of dynamite and 100 of monobel powder were tested on importation into Penang, and found to pass the tests prescribed by the Rules under "The Explosives Ordinance 1899."

Counterfeit Coins.

Exhibits in three cases of counterfeiting coin were received from the Police. The 18 coins examined in this connection were all made from Britannia metal.

One ten-cent piece received from the Hon'ble Resident Councillor was found to be genuine, while one silver \$1 piece received from the Treasury proved to be counterfeit.

Deleterious Drugs.

Eighty-four sets of exhibits were received from the Police. These comprised 2,774 exhibits, including hypodermic syringes and needles, packets and bottles of morphine and cocaine salts, mixing cups, etc.

In the majority of cases the hydrochlorides of morphine and cocaine were diluted with milk sugar. The total quantity of pure morphine hydrochloride amounted to 225,837 grains, the corresponding cocaine salt totalling 71,974 grains or 24 per cent of the total weight of alkaloids dealt with under this head.

Other Drugs.

Three samples of drugs were received from the General Hospital. They were found to contain Liquor Arsenicalis, Liquor Opii Sedativus and Zinc Sulphate respectively. A sample of pills received from the Police consisted of Quinine Sulphate.

A patent vermicide was found to consist chiefly of white arsenic, while a sample of Cyanide of Potassium was examined with a view to its suitability for use in assaying tin ore.

Toxicology.

(a) *Stomachs, etc.*—Six exhibits in cases of suspected poisoning were received from the local hospitals. Of these 2 contained opium and 2 ptomaines, while in the remaining cases no poison was detected.

(b) *Attempted poisoning cases.*—Seven sets of exhibits were received under this head.

In one case a cup of cocoa suspected of having been tampered with was found to contain pepper. In a case of suspected opium poisoning, opium, arsenic and alum were identified amongst the exhibits sent by the Police. In a third case the stomach washings of a Chinaman were found to contain appreciable quantities of Atrophine. No poison was found in any of the remaining cases.

(c) *Attempted Robberies by use of Narcotic Drugs.*—Three sets of exhibits in this connection were received from the Police. In two of the cases the poison employed was found to be Atrophine, probably administered in the form of a preparation of the local datura seeds. The exhibits in the third case included betel-nuts, sereh, and other native medicines but no narcotic drug.

Blood Stains.

Eleven sets of exhibits were received from the Police including knives, axes, and various articles of clothing. Blood was found in the majority of cases.

Milk.

Eleven samples were received for examination from the local hospitals. One of these fell below the English standard and the consequent proceedings resulted in the vendor being fined \$50. A sample received from a local firm was found to contain at least 30 per cent of added water.

Water.

Twenty-eight samples were examined with a view to their fitness for domestic use. Ten of these, taken from the Bukit Panchor Reservoir and the villages it supplies, were found to be of poor quality. Of the remainder, seven were reported as being of very doubtful purity. Three samples were examined and reported as being quite suitable for use in steam boilers.

Liquors.

The spirit strengths of 399 samples of Chinese liquors received from the Government Monopolies Department were determined for duty purposes. Samples of liquors in 10 cases of importing spirits without a licence were examined and reported on.

Nine samples of Chinese liquors were analysed in a case of using a false trade description under "The Merchandise Marks Act." Two samples of gin were examined and found to be of good quality. One sample of brandy and two of whisky proved to contain considerable quantities of silent spirit.

Methylated Spirits.

Nine consignments of spirit were examined and certified to be properly methylated

Chandu.

From January 1st to May 31st, 1910, Mr. COWAP in his capacity of Analyst to the Government Monopolies Department, paid daily visits to the Government Opium Factory, Sungai Pinang, to supervise the manufacture of the Government chandu. In connection with this, samples of the finished product were taken periodically and tested in the Laboratory as to quality. During 1910, 56 sets of exhibits consisting of

chandu and chandu dross were received for proof as to whether they contained Government chandu or not. In the majority of cases they were found to contain illicit produce.

Seven samples of Government chandu were received from the Monopolies Department for examination, owing to the retailers having complained of its quality. In only one case was any reasonable cause found for complaint. One sample of chandu was received from the Supervisor of Customs, Taiping, for valuation.

Miscellaneous.

The samples falling under none of the above heads included 20 of guano, one of flour and one of limestone.

A Malay promissory note in which the figure "1" was alleged to have been altered to "4" was examined but no evidence of any defalcation could be found.

Personnel.

On May 17th, the Hon'ble Dr. W. GILMORE ELLIS, Principal Civil Medical Officer, paid a visit of inspection to the Office and Laboratory.

On August 23rd, I arrived from Singapore, and took up my duties as Acting Deputy Government Analyst, while on August 24th, Mr. COWAP proceeded to Singapore to act as Government Analyst, Straits Settlements.

On December 21st, the room in the Central Police barracks, previously utilized as a Laboratory, was vacated, and the Laboratory and Office of the Department transferred to rooms in the Government buildings adjacent to the Government Wharves Offices.

APPENDIX 7.

Annual Report of the Straits and Federated Malay States Government Medical School for 1910.

REPORT BY DR. R. D. KEITH, *Principal*.

A.

Full Course for the L. M. S. Diploma.

1. *Numbers, etc.*—Eighteen new students joined the full course during the year of whom 2 were women. Of the new students 3 were Chinese, 6 Eurasians and 9 Tamils. One joined as a Federated Malay States student Assistant Surgeon with a scholarship, 13 as holders of scholarships and 4 as paying students. Seven had obtained the Senior Cambridge Certificate, 7 the Junior and one had passed partly the Junior Cambridge and partly the Preliminary Examination. Three were admitted as paying students on the understanding that they would pass the Compulsory Preliminary Examination in February, 1911.

At present 72 students are taking the full course of whom 16 pay fees, 16 are student Assistant Surgeons and 42 are holders of scholarships.

2. *Discipline, etc.*—Two students were asked to resign. They had proved quite unsuitable as prospective medical men. Two were allowed to resign. The scholarships of 2 students were forfeited, 2 were suspended and 4 reduced.

On the whole the conduct of the students had been good.

3. *Examinations, etc.*—The examinations have been on a higher plane, generally, than in previous years, and, with the raising of the level of the Preliminary Examination, which the Council has decided to make that of the senior Cambridge Certificate, it is probable that the general standard will improve. It appears to be undoubtedly the case that those who have passed the higher preliminary educational tests prove to be the better students throughout, and at the end of their curriculum. As an example one might point out that the only two students who entered during the first twelve months with a Senior Cambridge Certificate passed first and second in December, 1910, at the end of their five years' course.

During the first twelve months of the existence of the School 32 students entered, of whom 13 have passed out. Of these at their entrance 77 per cent had passed the Junior Cambridge Examination or its equivalent. Seven abandoned their studies for various reasons; they were mostly incompetent. Of these 14 per cent had passed the Junior Cambridge or an examination of equal difficulty. Twelve still remain in School having failed to pass their final examination and of these 33 per cent had obtained the Junior Cambridge at entrance. These figures seem to indicate that the final results of training in the Medical School correspond largely to the standard of knowledge at entrance.

It appears to me that a thorough knowledge of English is the only requisite which is absolutely essential in intending students. On entrance to the Medical School they, almost without exception, have to prepare a foundation of a method of acquiring knowledge, which, in European High Schools, is largely laid down before the Medical College or University is reached; more especially is this the case in the German Gymnasias. Without a thorough knowledge of English it is impossible to lay such a foundation, and, therefore, I think that the small amount of knowledge acquired before entering our Medical School, has been hitherto practically of no great value and the real essential is a thorough knowledge of English.

I do not think that the small amount of Latin, or any other language, boys are likely to acquire here will be of more than the slightest service to them in their curriculum.

The following have completed their course:—

<i>Date.</i>	<i>Name.</i>	<i>Remarks.</i>
May, 1910,	Chen Su Lan ...	Private.
"	W. F. Carnegie ...	Straits Assistant Surgeon.
"	E. W. DeCruz ...	" "
"	J. Gnanapragasam ...	Private.
"	S. R. Krishnen ...	F. M. S. Assistant Surgeon.
"	J. S. Lee ...	Private.
"	M. W. Chill ...	"
December, 1910.	A. J. Thumboo ...	"
"	Too Chin Teong ...	"
"	Tan Toon Cheng ...	"
"	R. Chelliah ...	"
"	S. Danasawmy ...	F. M. S. Assistant Surgeon.
"	G. B. Leicester ...	Straits Assistant Surgeon.

His Excellency Sir JOHN ANDERSON, G. C. M. G., presented the first diplomas and the prizes in the beginning of June, 1910. In December, 1910, the diplomas were presented by the Hon'ble Dr. W. GILMORE ELLIS, Principal Civil Medical Officer.

Synopsis of the results of the examinations in 1910.

<i>Date.</i>	<i>Subject.</i>	<i>No. Entered.</i>	<i>Passed.</i>	<i>Per cent of Passes.</i>
May, 1910.	Botany ...	4	2	50
"	Chemistry ...	4	1	25
"	Physics ..	20	18	90
"	Osteology ...	10	8	80
"	Anatomy ...	4	2	50
"	Physiology ...	6	3	50
"	Materia Medica ...	1	1	100
"	Pathology ...	5	4	80
"	Forensic Medicine	4	4	100
"	Hygiene ...	4	3	75
"	Medicine ...	11	8	72·7
"	Surgery ...	11	8	72·7
"	Midwifery ...	11	8	72·7

<i>Date.</i>	<i>Subject.</i>	<i>No. Entered.</i>	<i>Passed.</i>	<i>Per cent of Passes.</i>
December, 1910.	Botany ...	18	15	83·3
"	Chemistry ...	19	16	84·2
"	Osteology ...	15	14	93·3
"	Anatomy ...	21	8	38·0
"	Physiology ...	20	8	40·0
"	Materia Medica ...	11	9	81·8
"	Pathology ...	11	6	54·5
"	Forensic Medicine	9	7	77·7
"	Hygiene ...	11	9	81·8
"	Medicine ...	13	5	38·4
"	Surgery ...	13	5	38·4
"	Midwifery ...	13	7	53·8

The standard set up by the examiners in Anatomy and Physiology was high, and properly so. Probably if the examination in these subjects were kept at a high level, and if those students who failed twice in them were compelled to abandon their medical studies, it would not only be doing a kindness to the students themselves and prevent waste of time and money but it would also make the task of the teachers of the more advanced subjects lighter and their efforts more effective.

During the past five years I have taught Physiology, during the past two years Elementary Clinical Medicine, and, while Dr. FINLAYSON was on leave this year, more advanced Clinical Medicine and Pathology, and there can be no doubt that if a number of students who had just managed to struggle through an examination of a somewhat low standard in Anatomy and Physiology, had been compelled to continue their study of those subjects for an additional period of six months and to pass a higher standard of examination or to leave the school, the task of teaching Pathology and Clinical Medicine would be greatly eased. It appears to me that, at all costs, for the sake of the medical profession in Malaya, the standard of the examinations must be kept high.

In the near future we shall be able to occupy a fine new building, given by TAN CHAY YAN, Esq., of Malacca, in memory of his father TAN TECK GUAN, Esq. The construction has proceeded more slowly than was anticipated but it is hoped that it will be ready for use by the end of the Short Session. It will contain a museum and lecture room, a library and reading room, offices, stores, etc.

Over 100 specimens have been added to the museum in the course of the year and the typed catalogue has been brought up to date. The Pathology Department has prepared an exceedingly useful series of bone specimens which will be of very great value in the teaching of Surgical Pathology and will be well worthy to be housed in the new museum.

In September, an appeal was made for funds to enable the Council to increase the permanent teaching staff. Such an increase is urgently needed especially in connection with clinical work in the hospitals. The appeal had met with practically no response, when it was merged in the larger King EDWARD VII Memorial Fund.

Staff, etc.—Dr. DENT went on leave on September 1st, and Mr. COWAP took his place as lecturer in Chemistry and Physics. Dr. A. LEITCH lectured on Ophthalmology during Dr. F. W. MORE'S absence. Dr. CROUCHER took the place of Dr. LEASK as lecturer in Medicine and Dr. GIBBS that of Dr. LIM BOON KENG as lecturer in Materia Medica. During the short session Dr. J. S. WEBSTER lectured on Surgery and Dr. G. B. MCHUTCHISON from July to December. The constant though inevitable changes which have occurred in the teaching of this subject have been most detrimental to the progress of the students. Dr. LIVESEY gave a course of lectures in Surgical Anatomy. During the absence of Dr. FINLAYSON on leave his duties as Government Pathologist were shared by Dr. LIVESEY and myself, while I gave lectures on Pathology and superintended the work of the senior students in Clinical Medicine during the greater part of the long session.

The lecturers were, as usual, most generous in giving their time and assistance.

The arrangements for teaching the practice of midwifery were most unsatisfactory. It is feared that if students are allowed to practice with even a moderate degree of freedom in the free wards of the Maternity Hospital the number

of patients will diminish. Such, however, is not the case in India, where, in spite of the presence of students, there is no lack of patients. The Council has decided, however, that, at the first available opportunity, an out-patient maternity department shall be instituted as in Home Medical Schools, with head quarters in a suitable part of the town.

B.

Hospital Assistant Course.

Seven students joined this course during the year; 3 were sent by the Federated Malay States Government, the rest being paying students. Fourteen completed the course; 11 were Federated Malay States Government students, 2 were sent by the Straits Government and one paid fees. At present there are only 14 Hospital Assistants attending the School. It may be found necessary to set aside a number of scholarships for hospital assistants. At present men of this class are urgently required throughout the Peninsula. We have no scholarships available for hospital assistants, so that, if boys wish to enter the School in this class, they must either prosecute their studies as indentured Government students, or pay fees, and, as this class of students is as a rule unable to pay fees, we are entirely unable to supply the requests for hospital assistants made to us from time to time.

Estate and Mine owners and Managers have been invited to send boys to be trained as hospital assistants at the expense of their companies, but so far no response has been made.

The following hospital assistants finished the course and obtained certificates:—
CHAN SWEE KIM, V. NAGALINGAM, P. MURUGASU, W. H. T. ABRAHAM, NARAIN SINGH, S. A. HUNT, S. ARAMBOO, S. ARUMUGAM, S. VYTHELINGAM, W. SABARATNAM, K. VALAYUTHEN, S. VALUPPILLAI, E. APPUCCUTTY and P. DE'SILVA.

Dr. E. D. WHITTLE superintended the instruction of the hospital assistants at Tan Tock Seng's Hospital, where Messrs. Assistant Surgeons S. N. BARDHAM and W. F. CARNEGIE also gave much assistance in their training.

Two students of this class were asked to leave during the year on account of general unfitness.

C.

General.—A number of books and some new instruments were purchased. The class of entrants for 1911 are more numerous than usual and appear to be of a good type.

While, on the whole, the School appears to have made decided progress during the past year and to be gaining ground annually, and although the majority of the students are industrious, intelligent, and interested in their work and so far the reports on those who have left the School fully qualified have been good, yet a considerable number of them appear to be to suffer from an entirely exaggerated idea of their own capabilities, a characteristic which is as detrimental to their progress as, in many cases, it is difficult to eradicate.

Moreover, it is noticeable that a number of them appear to be lacking in mental as well as in physical stamina, and that some of them, although endowed with intelligence sufficient to enable them to acquire an amount of knowledge necessary to pass their examinations, are not possessed of that moral fibre and trustworthiness one should desire to see in future members of the medical profession. Such a state of affairs is, perhaps, inevitable in the infancy of a School of this kind and no doubt as time goes on a marked improvement in this respect will begin to manifest itself.

APPENDIX K.

Pathological Department.

REPORT BY DR. G. A. FINLAYSON, *Government Pathologist.*

I. Laboratory.

During the year, 879 specimens were examined, as compared with 1,258 in 1909, 682 being sent in from the various Government Hospitals, while 197 were submitted by private practitioners.

MALARIA.

The parasite was demonstrated in 34 blood films, the majority showing a subtertian infection. In 128 instances no parasite was observed.

WIDAL REACTION.

In only 82 cases, as compared with 202 in 1909, was the reaction positive, this representing a somewhat lesser number of cases of enteric fever as, in a few instances, a duplicate sample of blood was forwarded for examination.

There was no definite reaction in 414 cases.

Table showing monthly incidents.

January	8	May	8	September	1
February	8	June	7	October	8
March	4	July	4	November	11
April	3	August	7	December	13
	<hr/> 23		<hr/> 26		<hr/> 33

TUBERCULOSIS.

In 28 samples of sputa T. B. were demonstrated; in 74 others none were observed.

DIPHTHERIA.

The K-L bacillus was cultivated from 7 swabs from the fauces; in 9 others there were no growth of the typical organism.

GONORRHOEA.

Eighteen smears of urethral discharge were examined, but in 3 only were intracellular diplococci noted.

VARIOUS.

Other samples included 21 of urine for casts, etc., 14 of fæces for ova or amœbæ, 4 positive leprosy smears, 9 blood films for differential leucocytic count, dressings and some 12 tumours for report on malignancy.

WATER—MUNICIPAL SUPPLY.

Twenty specimens taken, as before, from different standpipes and at various intervals were examined during the year. The standard remains fairly constant, the number of organisms per c.c. varying from 130–150 with an average of 240, save on three occasions when the number exceeded 750, while, as previously, .05 c.c. produced gas and acid in MCCONKEY'S medium.

Reports upon other samples, soil and water from Lunatic Asylum, St. John's Island, etc., have already been forwarded.

MORTUARIES.

1.—*Tan Tock Seng Hospital.*

Total number of autopsies performed, 1,403.

Return showing the diseases to which death was directly attributed:—

1. Beri-beri	106	14. Malaria	314
2. Enteric fever	21	15. Tuberculosis	177
3. Dysentery	277	16. Lobar pneumonia	51
4. Other diseases of the Ali- mentary canal	73	17. Other diseases of the respira- tory system	65
5. Sapræmic conditions	76	18. Diseases of the circulatory system	55
6. Cholera	7	19. Diseases of the nervous system	31
7. Syphilis	12	20. Diseases of the excretory system	41
8. Leprosy	1	21. Senility	4
9. Malignant growth	19	22. Diabetes	1
10. Poison	3	23. Unknown	6
11. Accidents, etc.	28		
12. Anchylostomiasis	32		
13. Schistosomiasis	3		

RETURN SHOWING THE INCIDENCE OF DISEASE.

General Diseases.

1. Beri-beri ...	119	8. Leprosy ...	1
2. Enteric Fever ...	42	9. Septicæmia ...	11
3. Malaria ...	378	10. Sapræmia ...	29
4. Dysentery ...	412	11. Pyæmia ...	15
5. Anchylostomiasis ...	57	12. Cholera ...	7
6. Syphilis ...	16	13. Parotitis, acute ...	1
7. Senility ...	4	14. New growth ...	19

LOCAL DISEASES.

A.—Nervous System.

1. Meningitis, cerebro-spinal ...	1	6. Apoplectic Cyst ...	2
2. „ tubercular ...	7	7. Gumma of dura mater ...	1
3. Pachymeningitis, chronic ...	3	8. „ brain ...	4
4. Leptomeningitis, acute ...	15	9. Cerebral concussion ...	2
„ chronic ...	3	10. „ laceration ...	5
5. Oedema of meninges ...	9	11. „ softening ...	13

B.—Circulatory System.

1. Hæmorrhage subdural ...	16	8. Acute dilatation of heart	
2. „ cerebral ...	2	fatty ...	2
3. Thrombosis cerebral artery	3	9. Gumma of heart ...	4
4. „ lateral and longitudinal		10. Perforated septum-syphilitic	1
sinuses ...	1	11. Calcareous „ ...	1
„ other vessels ...	8	12. Aneurism, aortic arch ...	8
5. Pericarditis, acute ...	23	„ internal carotid	1
„ chronic)		„ thoracic aorta ...	3
„ adhesive {	7	„ abdominal „ ...	1
„ tubercular ...	2	„ cardiac wall ...	1
6. Endocarditis, chronic, aortic	24	„ sinus of valsalva	1
„ mitral ...	7	„ popliteal ...	1
„ ventricular wall	3	„ femoral ...	1
„ ulcerative, aortic ...	6	13. Dilated aorta ...	10
„ mitral ...	2	14. Atheroma fairly and well	
„ ventricular wall	2	marked ...	195
7. Myocarditis, chronic ...	2	15. Pernicious Anæmia ...	3
		16. Splenic Anæmia ...	5

C.—Respiratory System.

1. Asthma ...	1	12. Pyopneumothorax ...	11
2. Bronchitis, acute ...	7	13. Pneumonia, lobar ...	94
3. „ chronic ...	11	14. Tuberculosis, general ...	13
4. Broncho-pneumonia ...	73	15. „ miliary ...	5
5. Bronchiectasis ...	11	16. „ of lung, active	213
6. Pulmonary infarct ...	9	17. „ „ quies-	
7. „ gangrene ...	18	cent ...	36
8. „ collapse ...	14	18. „ larynx ...	60
9. Pleuritis—recent with adhe-		19. „ trachea ...	5
sions ...	89	20. Stricture of larynx, syphilitic	2
„ chronic ...	380	21. Oedema of glottis ...	2
„ tubercular ...	234	22. Emphysema of lung—well	
10. Empyema ...	45	marked ...	3
11. Pneumothorax ...	1	„ not advanced	157

D.—Digestive System.

1. Tubercular ulceration of tongue ...	2	19. Hepatic cirrhosis ...	64
2. „ „ stomach ...	1	20. „ abscess, amœbic ...	14
3. Ulcer, gastric ...	17	21. „ gumma ...	13
4. „ duodenal ...	6	22. Biliary Calculi... ..	18
5. Gastritis, acute ...	1	23. Cholecystitis, accute ...	7
„ chronic ...	4	24. Cholangitis, acute ...	14
6. Gastro-enteritis, acute ...	3	25. Perisplenitis, chronic ...	74
7. Entero-colitis, acute ...	3	„ acute ...	4
8. Dilatation of stomach ...	6	26. Splenic abscess ...	2
„ duodenum ...	1	27. „ gumma ...	17
„ cæcum and ascending colon ...	1	28. „ infarct ...	31
9. Prolapse of rectum ...	1	29. Malarial pigment ...	229
10. Stricture of rectum ...	4	30. Tubercular ulceration of small gut ...	126
„ splenic flexure ...	1	Tubercular ulceration of large gut ...	58
11. Fistula, perineal ...	2	Tubercular ulceration of appendix ...	5
12. Inguinal Hernia, strangulated ...	3	31. Tubercular nodules in spleen ...	45
„ „ reducible ...	7	„ „ liver ...	22
13. Intussusception ...	1	32. Dysentery, acute, amœbic ...	107
14. Volvulus ...	1	„ chronic „ ...	141
15. Paralytic distension after operation ...	1	„ acute bacillary ...	69
16. Peritonitis—acute, local ...	25	„ chronic bacillary ...	47
„ „ general... ..	50	„ acute mixed ...	12
„ chronic, local... ..	14	„ chronic „ ...	21
„ „ general ...	14	„ malarial ...	15
17. Appendicitis, acute ...	1	33. Enteric Fever ...	42
„ chronic ...	1	34. Pigmented Peyer's patches in small gut ...	16
18. Perihepatitis, chronic ...	55		
„ acute ...	5		

E.—Genito-Urinary System.

1. Nephritis, acute parenchymatous ...	9	Tubercular disease of bladder ...	1
„ chronic parenchymatous ...	26	„ „ ureter ...	1
„ interstitial ...	45	„ „ prostate ...	2
2. Hydronephrosis ...	1	„ „ vosiculæ seminales ...	1
3. Suppurative pyelitis ...	1	7. Stricture of urethra ...	3
4. Pyelonephritis ...	14	8. Extravasation of urine ...	7
5. Renal abscess ...	1	9. Cystitis, acute ...	2
„ infarct ...	3	10. Gumma of testis ...	1
„ gumma ...	1	11. Hydrocele, large ...	14
„ calculi ...	10	12. Hæmatocele ...	1
6. Tubercular disease of kidney ...	24	13. Uræmia ...	9

F.—Diseases of Bones and Joints.

1. Tubercular disease of hip-joint ...	3	6. False joint ...	1
Tubercular disease of shoulder-joint ...	1	7. Syphilitic disease of shoulder-joint ...	1
2. Caries of spine ...	4	Syphilitic disease of sternoclavicular joint ...	1
3. Necrosis of lower jaw 1, tibia 2, fibula 2, femur 2, digit 1, skull 1 ...	1	Syphilitic disease of sternum ...	1
4. Arthritis—acute, knee-joint ...	1	„ „ tibia ...	2
5. Ankylosis—knee-joint ...	1	„ „ ulna ...	1
		8. Otitis media ...	4

G.—New Growth.

1. Carcinoma of liver, primary ...	9	6. Angeioma of liver ...	6
2. „ „ stomach ...	4	7. Fibroma of kidney ...	1
3. „ „ lung ...	1	8. Sebaceous Cyst ...	2
4. Epithelioma of penis ...	1	9. Cyst in liver ...	1
5. Malignant disease arising in cervical region ...	4	10. „ pancreas ...	1

H.—Affections produced by External Causes.

1. Fracture of skull ...	11	3. Stab wounds ...	6
" spine ...	2	4. Poisoning, opium ...	2
" femur ...	5	5. " copper sulphate ...	1
" tibia and fibula...	1	6. Gunshot wounds ...	2
" humerus ...	2	7. Multiple injuries ...	9
" sternum ...	1	8. Rupture of spleen ...	4
" ribs ...	5	" lung ...	1
2. Fracture, dislocation of spine	3		

K.—Varied conditions.

1. Anchylostomiasis ...	57	6. Tubercular disease of lymphatic glands:—	
2. Abscess subphrenic 3, psoas 5, perisplenic 2, perinephritic 1, mastoid 3, back 1, thigh 4, perineal 1, ischio-rectal 1, calf 1, larynx 1, amputation stump 1, axillary 1 ...	25	active, cervical ...	4
3. Cellulitis, acute: trunk 4, upper extremities 6, lower extremities 4 ...	14	" bronchial ...	35
4. Gangrene: Cancrum oris 1, upper extremities 1, lower extremities 9, amputation stump 1, larynx 2 ...	14	" abdominal ...	60
5. Ulceration: extensive on lower limbs ...	23	" quiescent, bronchial ...	2
Ulceration: extensive on trunk ...	7	" quiescent, abdominal ...	1
		7. Spinal curvature, kyphosis	4
		" " scoliosis	4
		8. Abnormalities: persistent Thymus 3, horse-shoe kidney 1, diverticulum of small gut 1, deformed interventricular septum of heart 1, with several others of minor importance.	

II. Morgue, Sepoy Lines.

Number of autopsies performed, 193.

RETURN SHOWING CAUSE OF DEATH.

1. Beri-beri ...	17	10. Suppurative peritonitis ...	7
2. Pneumonia—lobar ...	6	11. Other diseases of alimentary canal ...	8
3. Other diseases of respiratory system ...	7	12. Diseases of nervous system	4
4. Malaria ...	24	13. Diseases of circulatory system ...	21
5. Poisoning and accidents ...	58	14. Diseases of excretory system	3
6. Tuberculosis ...	7	15. Tetanus ...	2
7. Cholera ...	5	16. Various septic conditions	9
8. Enteric fever ...	3	17. Unknown (too decomposed)	6
9. Dysentery ...	6		

RETURN SHOWING INCIDENCE OF DISEASE.

General Diseases.

1. Beri-beri ...	18	7. Malaria ...	25
2. Cholera ...	5	8. Sapræmia ...	1
3. Enteric fever ...	4	9. Septicæmia ...	6
4. Dysentery ...	13	10. Splenic anæmia ...	1
5. Syphilis ...	6	11. Infantile anæmia ...	1
6. Tetanus ...	2	12. Pneumonia ...	13

LOCAL DISEASES.

A.—Nervous System.

1. Meningitis, septic ...	3	3. Cerebral softening ...	1
2. Spastic paraplegia ...	1	4. Shock ...	3

B.—Circulatory System.

1. Hæmorrhage, subdural ...	2	5. Endocarditis, chronic,	
2. „ cerebral ...	4	mitral	1
3. Aneurism, aortic ...	4	6. Acute cardiac dilatation ...	2
4. Endocarditis, chronic, aortic	6	7. Pericarditis, acute ...	2
		8. Cerebral Thrombosis ...	1

C.—Respiratory System.

1. Broncho-pneumonia ...	6	8. Pleuritis recent, with	
2. Pneumonia, lobar ...	13	adhesions ...	9
3. Empyema ...	4	9. Pleuritis, old with adhesions	30
4. Pulmonary collapse ...	1	10. „	
5. Tuberculosis of lung, active	8	11. „ tubercular ...	12
6. „ „ quiescent	5	12. Atelectasis ...	1
7. „ „ larynx...	1	13. Acute œdema of glottis ...	1

D.—Digestive System.

1. Appendicitis, acute ...	1	11. Splenic abscess ...	1
2. Suprahepatic abscess ...	1	12. Perisplenitis, chronic ...	4
3. Hepatic abscess, amœbic ...	1	13. Entero-colitis, acute ...	2
4. „ „ septic ...	1	14. Enteric fever ...	4
5. Cholangitis, acute, septic ...	2	15. Tuberculosis of gut ...	2
5A. Hepatic cirrhosis ...	7	16. Dysentery, acute amœbic ...	4
6. Perihepatitis, chronic ...	4	17. „ chronic „ ...	3
7. Biliary calculi ...	10	18. „ acute bacillary	5
8. Volvulus ...	1	19. „ chronic „ ...	1
9. Suppurative peritonitis ...	9	20. Malarial pigment in spleen	15
10. Splenic infarct ...	3		

E.—Genito-Urinary System.

1. Hæmorrhage accidental ...	1	5. Septic nephritis ...	1
2. Nephritis, chronic interstitial	3	6. Uræmia ...	1
3. „ „ parenchy-		7. Salpingitis, chronic ...	1
matous	3	8. Renal calculi ...	2
4. Pyelonephritis ...	1		

F.—Affections produced by external causes.

1. Fracture of skull ...	10	14. Rupture of jejunum ...	1
2. „ spine ...	3	15. „ gastric vessel ...	1
3. „ pelvis ...	4	16. „ bladder ...	1
4. „ radius and ulna	5	17. „ lung ...	1
5. „ tibia and fibula	1	18. Stab wound heart ...	2
6. „ femur ...	7	„ thorax ...	1
7. „ humerus ...	2	„ neck ...	1
8. „ os calcis ...	1	„ abdomen ...	2
9. „ ribs ...	9	19. Cut throat ...	4
10. „ sternum ...	3	20. Poisoning, opium ...	1
11. „ upper jaw ...	1	alcohol ...	1
12. Rupture of spleen ...	11	21. Dislocation of hip-joint ...	1
13. „ liver ...	4		

G. & K.—Varied conditions.

1. Arthritis, septic, knee-joint	1	New Growths, parovarian cyst	1
2. Cellulitis, acute, leg ...	1	„ cystic ovary	1
„ „ neck ...	1	„ gumma of liver	2
3. New Growths, angioma liver	1	4. Occlusion of cystic duct ...	1

III. Mortuary—Quarantine Camp.

Number of autopsies performed 147.

RETURN SHOWING CAUSE OF DEATH.

1. Cholera	...	...	69	11. Subphrenic abscess	...	1
2. Plague	...	...	5	12. Meningitis, septic	...	1
3. Small-pox	...	...	9	13. Cerebral softening	...	1
4. Dysentery	...	...	16	14. Pericarditis, acute	...	1
5. Malaria	...	...	14	15. Broncho-pneumonia	...	3
6. Enteric fever	...	...	4	16. Beri-beri	...	11
7. Appendicitis	...	...	1	17. Tuberculosis of lungs	...	3
8. Peritonitis, septic	...	...	2	18. Nephritis, parenchymatous	...	1
9. Cholecystitis	...	...	1	19. Puerperal eclampsia	...	1
10. Psoas abscess	...	...	1	20. Inguinal hernia	...	—

RETURN SHOWING INCIDENCE OF DISEASE.

General Diseases.

1. Cholera	...	...	69	5. Enteric fever	...	—
2. Plague	...	...	5	6. Anchylostomiasis	...	—
3. Small-pox	...	...	9	7. Malaria	...	16
4. Beri-beri	..	...	11	8. Dysentery	...	21

A.—Nervous System.

1. Meningitis, septic	...	1	2. Cerebral softening	...	1
3. Oedema of meninges	...	1			

B.—Circulatory System.

1. Pericarditis, acute	...	2	Pericarditis, chronic	...	1
2. Cerebral Thrombosis	...	1			

C.—Respiratory System.

1. Pneumonia, lobar	...	2	7. Pleuritis, chronic with adhe-		
2. Broncho-pneumonia	...	8	sions	...	18
3. Pulmonary abscess	...	1	„ tubercular	...	7
4. „ collapse	...	1	8. Tuberculosis of lungs, active	...	8
5. „ emphysema	...	1	„ quiescent	...	1
6. Empyema	...	1	9. „ of larynx	...	1

D.—Digestive System.

1. Peritonitis, acute local	...	2	10. Splenic infarct	...	2
„ general	...	5	11. „ gumma	...	1
2. Gastric ulcer	...	2	12. Perisplenitis, chronic	...	9
3. Appendicitis, acute	...	1	13. Malarial pigment in spleen	...	21
4. Hernia, strangulated	...	1	14. Tuberculosis of small gut	...	3
„ reducible	...	2	15. Tubercular abdominal glands	...	1
„ inflamed	...	2	16. „ peritonitis	...	1
5. Hepatic cirrhosis	...	3	17. Dysentery, acute amœbia	...	1
6. „ gumma	...	1	„ chronic „	...	3
7. „ abscess	...	1	„ acute bacillary	...	15
8. Perihepatitis, chronic	...	2	„ chronic „	...	2
9. Cholecystitis, acute	...	2	18. Enteric fever	...	5

E.—Genito-Urinary System.

1. Nephritis, acute parenchymatous	3	4. Hydrocele ...	1
2. Puerperal eclampsia ...	1	5. Salpingitis, chronic ...	1
3. Interstitial nephritis, (calculus)	1	6. Prolapse of uterus, etc. ...	1

K.—Varied Conditions.

1. Harelip ...	1	5. Psoas abscess ...	1
2. Sebaceous cyst in neck ...	1	6. Subphrenic abscess ...	1
3. Chronic ulcers, lower limbs	2	7. Fracture of rib ...	1
4. Abscess formation—morphine injection ...	1		

General Diseases.

1. *Beri-beri*.—There was a slight increase in the case incidence and mortality as compared with the previous year. Of 148 cases showing typical lesions 134 or 90 per cent died from the disease.

2. *Enteric Fever*.—The mortality from this infectious disease has remained stationary. Ulceration of the small gut was demonstrated in 51 instances, and of these 42 died from the infection; in 14 or 33 per cent perforation had occurred giving rise to a suppurative peritonitis.

One marked instance of hæmorrhagic enteric is to be recorded. The patient, European, had contracted the infection either in Europe or at Port Said, and on admission into the General Hospital numerous extravasations of blood into the conjunctivæ, tissues of right eyelid and subcutaneous structures of limbs and trunk were observed. There was also hæmorrhage from gums, bladder and bowel. At the autopsy petechiæ were noted under the epicardium and visceral pleural lining, with scattered ecchymoses, varying in size, just under the peritoneal lining of abdominal wall, mesentery and gut generally. On opening the bowel there appeared to have been an oozing from the intestinal muscosa from stomach to cæcum, while the walls were œdematous. The infiltration and ulceration of Peyer's patches, etc., was typical—third week of illness; the mesenteric glands, draining ileum were enlarged, soft and hæmorrhagic simulating the appearances presented by the femoral or iliac glands in a case of bubonic plague, with staining, by effused blood, of the adjacent connective tissue structures. *B. Typhosus* was isolated from the spleen in pure culture without admixture of any streptococcus or other organism, so that a particular toxin seems to have been elaborated by this strain which exhibited well-marked hæmolytic or cytolytic properties.

3. *Malaria*.—In 419 autopsies, active malarial parasites were found in the spleen or peripheral blood, in a further 265, the spleen showed pigmentation from a previous infection, so that 684 or 40 per cent of all cases examined, exhibited signs of malaria; 352 or 84 per cent of those showing plasmodia died from the disease. I have nothing to add to prior reports on this grave condition save that such measures as the conversion of a tidal estuary in the immediate vicinity of the town itself into a fresh water marsh are absolutely inimicable to the reduction of anophelinæ, whether they be proved to be good carriers or not.

4. *Plague*.—As usual only a few sporadic cases occurred and in each it was found impossible to trace the source of infection.

5. *Cholera*.—The epidemic almost continuous with that of 1909, died out about August. Since then no fresh case has been noted.

6. *Malignant Disease*.—As remarked upon previously the only noticeable feature is the high percentage of primary Cancer of the Liver.

7. *Dysentery*.—Of the 292 cases showing the lesions, acute or chronic of amoebic dysentery, 16 or 5·5 per cent had an abscess of the liver. Quite a remarkable feature this year was the large number 42 or 9·3 per cent of the total number

446, exhibiting an ulcerative state of the large gut, which had an associated peritonitis. For the most part this occurred in cases of the amboëbic type and the inflammation was either local or general, as noted in my report for 1909.

8. *Small-pox*.—During the epidemic several cases, mostly early hæmorrhagic, were examined.

9. PNEUMONIA.

Lobar incidence—Acute.

Right upper	...	3	Right lower and upper	...	1
„ „ and middle	...	7	All lobes	...	6
„ middle	...	3	Left upper	...	3
„ „ and lower	...	8	„ lower	...	12
„ lower	...	17	Both lobes	...	4

Chronic.

Right upper	...	3	Left upper	...	0
„ „ and middle	...	3	„ lower	...	17
„ middle	...	3	Both lobes	...	2
„ „ and lower	...	1			
„ lower	...	13			
„ „ and upper	...	0			
All lobes	...	3			

Quite a considerable percentage, more especially in cases of the chronic type, was accompanied by an acute pericarditis, an empyema or a suppurative peritonitis.

The frequency of pneumonia with its complications or sequelæ has been previously recorded. Unfortunately quite a number of patients still apply for relief when operative interference is well nigh hopeless as these cases die soon after admission.

Appended is a list summarising the incidence and mortality of Tuberculosis, Malaria, Dysentery, Beri-beri and Enteric Fever during the past four years.

Year.	Total Autopsies.	MALARIA.				DYSENTERY.				TUBERCULOSIS.				ENTERIC FEVER.				BERI-BERI.			
		Incidence.	Percentage Incidence.	Deaths.	Percentage Mortality.	Incidence.	Percentage Incidence.	Deaths.	Percentage Mortality.	Incidence.	Percentage Incidence.	Deaths.	Percentage Mortality.	Incidence.	Percentage Incidence.	Deaths.	Percentage Mortality.	Incidence.	Percentage Incidence.	Deaths.	Percentage Mortality.
1907	...	228	21.0	212	19.6	289	26.7	212	18.1	233	21.5	152	14.0	78	7.2	71	6.5	60	5.5	50	4.6
1908	...	527	33.8	364	23.3	519	33.3	403	26.0	340	21.8	265	17.4	76	4.2	74	4.8	149	9.6	132	8.5
1909	...	372	23.0	289	18.0	523	32.5	325	20.0	288	18.0	171	10.5	53	3.3	45	2.8	124	7.7	104	6.6
1910	...	419	24.1	352	20.2	446	28.6	299	17.2	289	16.6	187	10.7	51	3.0	42	2.4	148	8.5	134	7.7

Local Diseases.

A.

Requires no special comment.

B.

Attention may be again drawn to the gummatous changes observed in several cases of cardiac disease. We have been singularly unfortunate in not being able to observe these cases, for any length of time, clinically, as in two or three instances they were admitted into the wards either dead or in a dying condition. Another feature is the frequency of aortic aneurism; in some instances there was a rupture either into the lung, bronchus or pleural sac, into a cardiac chamber or pulmonary artery or into the pericardial sac.

C.

Tuberculosis.—As will be observed there has been a material decrease in the percentage of cases showing T. B. pulmonary mischief during the past two years as compared with 1907 and 1908, although the actual number of cases examined shows little decrease. Practically all, 187 out of 247 or 64·7 per cent who died from this disease, showed advanced lesions of the Broncho-pneumonia type.

D.

In nine cases of Hepatic Cirrhosis the ova of *Schistosomum Laponicum* were present in considerable number; in one case the ova were found in the intestinal mucosa from stomach to rectum.

Causes producing inflammation of the peritoneal sac:—

Dysentery	...	...	...	...	42
Enteric fever	...	...	...	...	14
Septicæmia	...	...	...	...	5
Pneumococcic	...	...	...	...	4
Strangulated Hernia	...	...	...	...	2
Appendicitis	...	...	...	...	2
Volvulus	...	...	...	...	1
Tubercular	...	...	...	...	2
Traumatic	...	...	...	...	6
Perihepatitis, chronic	...	...	...	...	3
Hepatic Cirrhosis	...	...	...	...	4
Ulcer of stomach	...	...	...	...	2
Cancer of stomach	...	...	...	...	1
Rupture of jejunum	...	...	...	...	1
Rupture of spleen	...	...	...	...	1
Splenic abscess	...	...	...	...	1
Hepatic abscess	...	...	...	...	2
Suppurative cholangitis	...	...	...	...	1

I have already remarked on the large number associated with Dysentery, Splenic infarct. A point to be considered is the number of acute malarial cases which show a recent infarct in the spleen; it is not a point which one desires to lay great stress, but it may in some cases account for the great pain and tenderness with the enlargement of the viscus which one notes clinically in this disease.

E. F. G.

Require no further note.

H.

Again attention is to be called to the large number of cases of fracture of the skull, for the most part accidental.

K.

Requires no further amplification.

Intestinal Parasites.

Ascaris Lumbricoides	...	...	...	153
Trichocephalus dispar	...	...	...	38
Anchylostomum duodenale	...	...	...	171
Tænia Saginata	...	...	...	1

In 57 cases death was due to Anchylostomiasis.

The *Clonorchis Sinensis* was observed in the bile ducts in 50 instances.

Staff.

During my absence on leave in the latter half of the year my duties were undertaken by Dr. R. D. KEITH and Dr. S. M. LIVESEY. Dr. KEITH has also mounted numerous specimens for the school museum which has thereby been greatly enriched for teaching purposes. I trust that with the increase of the staff now granted, but so far unobtainable, we shall be able to undertake this year something of the nature of research work.

As an appendix I beg to forward an analysis of the results of microscopic examinations by Mr. S. N. BARDHAM at Tan Tock Seng Hospital Mortuary. This work is carried on personally by himself with the assistance of medical students, acting under his instructions. Blood films for the presence or absence of the malarial parasite were systematically examined from April onwards.

Subtertian infection	...	...	...	1,629
Benign Tertian infection	...	...	...	182
Benign Quartan	„	...	...	111
Mixed infections	...	...	...	123
				<hr/> 2,045 <hr/>

In addition 177 films showed a large mononuclear increase or pigmentation of these leucocytes.

One thousand one hundred and fifty-four slides were examined with a negative result.

Total number of patients admitted into hospital was 9,162. Sputa for T. B.

One hundred and twenty-three positive; 152 negative.

Fæces.—Ova of intestinal worms were demonstrated in 106 cases, in 172 the result was negative.

Amœbæ were observed in seven cases.

Urine.—Tubes casts were seen in 17 cases, in 16 nil noted.

Leprosy.—In smears from anæsthetic areas or nodules the *B. lepræ* was seen in 10 instances, in 10 others the result was negative. Several other specimens were examined for the purpose, presence or absence of pathogenic bacteria, while a differential leucocytic count was carried out in 17 instances.

APPENDIX L.

Annual Report on the Medical Department, Labuan, for the Year 1910.

REPORT BY DR. T. C. CLEVERTON, *Medical Officer*.

Population and Health.—Table showing the estimated population, and the birth and death-rates, for the years 1908 to 1910:—

Year.	Estimated Population.	Births.	Deaths.	Birth-rate per mille.	Death-rate per mille.
—	—	—	—	—	—
1908	8,245	172	213	20·82	25·83
1909	8,231	183	197	22·23	23·93
1910	8,199*	235	267	28·66	32·56

* According to a rough Census taken by the District Officer, the population is estimated at 7,600—males 4,432 and females 3,168. The population include 47 Europeans.

The birth and death-rates have both considerably increased during the past five years: it is probable that this increase is due to the fact that the natives are appreciating, year by year, the importance of reporting births and deaths to the Registrar. The figures showing the number of births and deaths in the above table are probably very nearly accurate now.

The infant mortality is still high, but although the actual number of deaths occurring under one year of age was two more than 1909—76 in 1910—yet on comparing the percentage of these deaths to the total death and birth-rates, the figures are more satisfactory than they have been for the past five years. The following table will show this:—

<i>Year.</i>	<i>Number of deaths under one year.</i>	<i>Percentage of deaths to total death-rate.</i>	<i>Percentage of deaths to total birth-rate.</i>
—	—	—	—
1906	66	40·99	56·89
1907	51	28·33	34·22
1908	67	31·45	38·95
1909	74	37·56	40·43
1910	76	28·08	32·34

Of the 76 deaths under one year of age, 23 were given as due to fever, 10 as due to convulsions, 5 as inanition, and 4 were born dead.

Of the total number of deaths the principal causes given were:—(a) Fever 64; (b) Pulmonary Tuberculosis 28; (c) Old age 22; (d) Beri-beri 18; (e) Injuries 19 and (f) Diarrhœa 14. Deaths from Dysentery were given as 5 only. No epidemic diseases have occurred during the year.

Port Health Work, etc.—Twenty ships were examined: all were granted “pratique.” There are no buildings on the Quarantine Station for isolating contagious diseases.

A kajang and attap shed was put up just outside the hospital grounds towards the end of the year by the Public Works Department to house a leper who was kept isolated there until he died after about 3 weeks’ occupation.

Malaria.—This is still very prevalent on the island. During the year 121 patients were admitted to hospital for this, as against 112 in 1909, and 32 in 1908. In addition 537 patients were treated for this disease as out-patients in 1910.

The following anti-malarial measures were carried out by the Public Works Department during the year:—

- (a) Several depressions round the Police barracks and the town were filled in, and the ground was drained in these places.
- (b) Several concrete street drains were regraded.
- (c) About 200 yards of new concrete side drains were completed.
- (d) The earth drains about the hospital grounds were reformed.

In addition about 125 ounces of quinine were used as a curative and prophylactic agent. The following number of cases treated for this disease would indicate that malaria is increasing on the island, but it must be remembered that many more patients are seeking relief for this than formerly. The number of deaths attributed to “fever” was the same as in 1909.

Beri-beri.—This has shown a marked increase during the year, but the increase is entirely due to recently imported contract coolies, who almost invariably gave histories of having previously suffered from the disease in Singapore, or elsewhere. The majority were thus relapses, and some of the coolies were imported here with the disease actually developed at the time of arrival.

There were 44 admissions to hospital under this head, of whom certainly 36 had been recently imported coolies. The number of deaths was 18, as against 6 in 1909.

It is impossible to get parboiled rice in Labuan: the Hospital Contractor imported some about three years ago, but could find no market for it, with the result that it became unfit for food. The rice generally eaten by the Chinese in Labuan, is Siamese, and there is very little Beri-beri amongst the Chinese residents here.

Venereal Diseases.—Only 13 cases were treated in hospital during the year, and still fewer were treated as out-patients. These diseases are probably far more common than is indicated by these figures however.

Pulmonary Tuberculosis.—Eleven cases were treated in hospital during the year, and 28 deaths were attributed to this disease. This gives a percentage of 10·48 of the total death-rate.

Dysentery and Diarrhœa.—Very few cases were treated or recorded.

Police Force.—The general health of the police was fair, except for Malaria, which was again very common amongst the force. On the whole the health showed a distinct improvement upon that for 1909. No deaths occurred.

The number of out-patients treated amongst the members amounted to 734, of whom 251 were cases of Malaria. The police were not admitted to hospital so freely for this, or for other complaints, as they were in 1909, only the more severe cases being admitted in 1910.

The number of police admitted to hospital during the year was 67 as against 127 in 1909.

The Prisoners.—There was a great increase in the number of prisoners convicted during the year, and at times the accommodation in the jail was strained to its utmost. Contract coolies were largely responsible for this increase.

There were also more vagrants committed to the "House of Detention" during 1910 than during the three previous years.

The general health of the prisoners was fair, and there were no cases of beri-beri amongst them, but the general health of those under detention was poor, and there were several cases of beri-beri amongst them.

No prisoners died, but three vagrants who had been committed to the House of Detention died in hospital.

The number of prisoners who attended as out-patients was 304: Malaria was the principal disease for which they were treated.

Out-patients.—The number treated, exclusive of Police and prisoners, was 446, of whom 129 were Malays. This is more encouraging than 1909, but we should get still more encouraging results if the small Government out-patient fee were waived in favour of the Malays. Malaria, Bronchitis, Round-worms, and Skin diseases were the principal cases treated.

Sanitation.—The same general sanitary conditions prevailed as in the previous year. In conjunction with the anti-malarial measures carried out, the following special sanitary work was done :—

(a) Several old and dilapidated houses were pulled down.

(b) A 10 ft. rubble back-lane was constructed at the end of Beach Street, with a concrete side drain.

Other minor sanitary work included the providing of the Police latrines with special sanitary buckets, the improvement of the Chinese eating-houses, and the cutting down of a quantity of undergrowth in suburban limits.

Three samples of drinking water were sent to Singapore for analysis. The report—kindly made by the Government Analyst—was satisfactory upon all three samples.

Vaccination.—The total number vaccinated was 235 as against 347 in 1909; of this number 105 were vaccinated by a private medical practitioner.

Of the total number 223 were successful and 12 were failures. There were 125 vaccinations done on infants of 3 months and under, 25 on children of 4 months to one year, and 85 on people of one year and over.

The lymph supplied was most satisfactory.

Meteorological.—The general direction of the wind during the first three months was North-East, during the last 9 months South-West. The first quarter again showed a lower rainfall than any other quarter, or than any other 3 months picked from the year.

The total rainfall was 151·25 inches as against 114 inches in 1909. The wettest month was October when 19·17 inches fell, and the greatest rainfall during 24 hours was 4·22 inches.

The highest temperature recorded was 93° F. and the lowest 72° F.

The Hospital.—The total number of patients treated was 338 as against 307 in 1909, and 167 in 1908. Six remained over from 1909, and 20 remained at the end of 1910.

The daily average of sick was 14.4, in 1909 it was 11.6. Six Europeans were treated in hospital during the year. The number of operations done was 25, in addition to opening up of small abscesses, paracentesis of bladder, extraction of teeth, etc. There were no deaths in any of the operation cases.

The number of deaths in hospital was 27: of these 12 died within 30 hours of admission. The percentage of deaths to cases treated in hospital was 7.98, as against 5.53 in 1909, and 13.17 in 1908.

Ten cases were admitted as the result of serious accidents, of whom 3 succumbed, and 1 developed Tetanus and died.

The chief diseases treated were:—Malaria 121 with 3 deaths; Beri-beri 47 with 8 deaths (4 within 12 hours of admission); Pulmonary Tuberculosis 11 with 5 deaths; and Venereal Diseases 13 with no deaths. One case of *Schistosomum Japonicum* was imported from British North Borneo. He was a Tamil suffering from dysenteric symptoms.

The Staff.—Hospital Assistant D. S. STONER was relieved by Hospital Assistant A. PONAMPALAM on September 22nd. The former proceeded to Singapore.

Dresser R. VYTHILINGHAM started work here on September 22nd, *vice* Dresser F. G. GOMEZ, resigned.

The Buildings.—A new prison ward to contain 8 was attached to the hospital early in the year. Towards the end of the year this ward was always well filled, as our accommodation was somewhat strained then.

General.—Dr. CROUCHER, acting for the Principal Civil Medical Officer, paid a visit of inspection in August.

APPENDIX M.

Outbreak of Cholera on Caledonia Estate.

Province Wellesley.

REPORT by Dr. W. S. SHEPPARD, *Medical Officer*.

It would appear that the first suspicious cases of bowel disorder occurred on the 8th and 10th July. Later in the same month, three other cases with suspicious symptoms attracted the attention of the resident doctor, who made a report to me on July 26th.

The cases I saw on that date presented the most indeterminate symptoms, in no way characteristic of Asiatic cholera. There was a marked absence of collapse symptoms. Here, for instance, was a man reported to have been suddenly seized with vomiting and diarrhoea and to have cramps in his muscles, nevertheless ready to converse, and in the intervals of attending to the necessities of nature, eating a hearty meal of rice and kanji. Yet this patient undoubtedly to my knowledge passed numerous "rice-water" stools, had some vomiting and cramps in his legs. There was little or no collapse. He made a good recovery.

The occurrence of several cases of this description, together with the fact that very few or no comma-shaped bacilli could be identified in the stools (which, however, were full of colon bacilli) led one to hesitate about calling the disease cholera at that stage.

Strict precautionary measures were, however, adopted to prevent the spread of the disease. Those attacked were isolated, contacts were kept under supervision and disinfection of the houses from which the sick came was carried out.

I regret that at this stage no expert bacteriological assistance could be obtained. There were no culture tubes available in Penang.

The early cases came from the following lines:—

1. Victoria Indentured coolie lines.
2. Caledonia Indentured coolie lines.
3. Victoria Free (Pariah) lines.
4. Caledonia Free lines.

Most of the subsequent cases have occurred in these same lines. Sporadic cases have, however, occurred in the following places:—

1. Byram Estate Hospital (amongst the convalescent gang, working in the hospital compound) 1 case.
2. Byram Estate Javanese coolie lines—1 case.
3. Jawi coolie lines (on the road to Sungai Bakap village) 1 case.
4. Transkrian Estate—1 case.
5. In the hospital at Caledonia Estate amongst the cholera-ward attendants.
6. In the isolation hospital at Sungai Bakap, where the jawi coolie was detained, the attendant was attacked and died.
7. In the various contact camps that have been established.

8. One of the European Assistants at Caledonia is reported to have suffered from choleraic symptoms, but no report was made to me by the Doctor in attendance.

The infected area has thus been very wide and it is only by the exercise of the utmost vigilance that the disease has been hemmed in. All those attacked have been Tamil coolies, with the exception of the Javanese case at Byram and the European at Caledonia. One remarkable feature at first was the fact that no two cases came from the same house. This was very noticeable and naturally lent aid to our suspicions that the disease was not true Asiatic cholera. Later on this feature of the epidemic disappeared and, the infectivity of the disease was clearly demonstrated.

Concerning the causation of the outbreak, no history of any recent preceding case of cholera could be obtained. Naturally one's suspicions fell on the water-supply. This is two-fold. The Bukit Panchor water is laid on to the indentured coolie lines at both Caledonia and Victoria, but not to the free coolie lines (the brunt of the attack has fallen on the free coolies in both places). At the very doors of the free coolie lines in both places are the trenches in which the coolies bathe, wash clothes, cooking utensils, etc. The water of these trenches is much polluted by excreta which is deposited on the banks and washed into the trenches by the rain. The water is undoubtedly used largely by the coolies who live near for culinary and drinking purposes.

I am inclined very strongly to the belief that it is the use of this filthy trench-water that is responsible for the present outbreak of disease.

Enquiry amongst the infected in nearly every instance elicited the fact that he had drunk the trench-water. No case has been recorded in which a coolie drinking only pipe-water has become infected.

The following preventive measures have been adopted:—

1. The removal of the sick to an isolation ward, on the first report of the case.
2. The segregation of "contacts" in camps specially formed for them.
3. The unroofing and cleansing of the vacated houses.
4. The destruction of all clothing, water-utensils, etc., likely to be infected.
5. The flushing-out of some of the trenches near the infected houses by opening of the water gates.
6. The plentiful distribution of potassium permanganate in the water of the trenches. This serves two purposes—one, disinfection, the other, to prevent for a time the people from using the water.
7. The conveyance to the lines to which the pipe-water is not laid on, of clean water, by means of water-carriers.
8. The European supervision of the distribution of drinking-water to the coolies while at work in the fields.

I have been inclined to lay great stress on measure No. 5. In the epidemic of 1906, the admission of salt water into the trenches saw the collapse of the epidemic. This may have been a coincidence. I think it was not so. In my opinion, the source of infection in this, as in the former epidemic, is the trench-water and if this water is rendered undrinkable by admixture with sea-water (most of these trenches connect up with the sea) the disease will disappear.

Unfortunately, the management have not been able to see their way to the flushing of the trench by the side of the Caledonia free coolie lines with sea-water. I understand that the difficulty is insuperable, at least so I am informed by the Senior Medical Officer, Penang, to whom I conveyed my recommendation. This is very unfortunate as it is in these lines that the disease appears to be localised and nearly all the recent cases have occurred there.

Concerning measure No. 7 the purveying of clean water to the infected lines, there is already an installation of the Bukit Panchor water (which water has been reported on favourably by the Government Analyst and the excellence of which is otherwise attested by the fact that in the villages of Nibong Tebal and Sungai Bakap, where it is extensively used, no bowel disorders are reported) but only in the indentured coolie lines. A month ago I recommended that pipes should be laid down and the service extended to the free coolie lines. I regret to state that up to the present no steps have been taken to carry out this recommendation. I consider that this measure should be carried out without delay and I have so reported to the Senior Medical Officer, Penang. I consider too that more stand-pipes should be erected in the indentured lines, where at present, some coolies have to walk several hundred yards to reach the water-tank.

I have, without advancing any proof, assumed in the report that the disease with which we are confronted is cholera. My opinion is based on the following:—

1. Though the first cases were, as related above, of a singularly mild type, yet as the epidemic has advanced, the type of disease has apparently altered. Most of the cases in August, presented all the typical clinical features of true Asiatic cholera, the disease running its course, from start to finish, in a few hours. With a not inconsiderable experience of cholera outbreaks in India, I have never seen cases of a more fulminating type than some of those I have recently seen on this estate.
2. The infectivity of the disease which was not at all apparent at first is now established beyond doubt. Witness the attacks on the ward attendants, and toties at Caledonia and Sungai Bakap isolation hospitals.
3. Bacteriological evidence has naturally been imperfect. Apparatus for making culture-tubes was not available and a simple inspection of the stained specimens from the dejecta by an oil-immersion lens was all that was possible. All the specimens examined showed numerous colon bacilli and the proportion of curved rods (comma shaped bacilli) visible was much larger in the later than in the earlier cases.

The usual methods of treatment have been adopted. The resources of an estate hospital are so limited and the rush of work has been so great (an epidemic of small-pox occurring simultaneously with the cholera outbreak) that no trial was possible of the method of treatment by transfusion of binormal saline solution, as recommended by the Calcutta School. Up to date there have been 71 cases with 45 deaths, a death-rate of 63.38 per cent which does not compare unfavourably with epidemics elsewhere. Several of the early mild cases that recovered have not been recorded, in the list, which with these additions, would total more than 71.

The extra work that has devolved upon the Assistant Surgeon at Sungai Bakap, in connection with this outbreak has been very considerable and he has worked very zealously.

No case has been reported for the last three days, nor has any case been reported from outside the Caledonia Estate since the 13th August.

I regret the delay in preparing even this brief report. But the simultaneous outbreak of cholera and small-pox in the Province has thrown an unusual strain on the resources and time of the Medical Staff.

SINGAPORE.

Return of the Statistics of Population for the Year 1910.

	Europeans.	Eurians.	Malays.	Chinese.	Indians.	Other Nationalities.	TOTAL.
Number of inhabitants in 1910 ...	4,434	4,675	36,163	215,644	19,652	3,881	284,449
" Births during the year 1910	136	145	1,663	4,056	413	32	6,445
" Deaths " 1910	55	109	1,867	9,411	951	118	12,511
" Immigrants " 1910	}		No data	avail able.			
" Emigrants " 1910							
Number of inhabitants in 1909 ...	4,364	4,611	36,154	209,356	19,446	3,727	277,658
Increase or Decrease	70	64	9	6,288	206	154	6,791

Meteorological Return for the Year 1910.

[illegible]

SINGAPORE.

*Return of Diseases and Deaths in 1910 at the following Institutions:—
General Hospital, Prison, St. John's Island, Tan Tock Seng's Hospital, Quarantine
Camp, Leper, Beri-beri and Lock Hospitals and Lunatic Asylum.*

DISEASES.	Remain- ing in Hospital at end of 1909.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1910.	REMARKS.
		Admis- sions.	Deaths.			
INFECTIVE DISEASES.						
Beri-beri ...	156	1,006	182	1,162	153	
Cerebro spinal fever ...	...	...	...	...	...
Chicken-pox ...	2	31	...	33	1	
Cholera ...	...	224	167	224	...	
Cow-pox ...	...	...	...	...	...
Dengue ...	1	14	...	15	...	
Diphtheria ...	...	7	2	7	...	
Dysentery ...	33	878	405	911	43	
Endocarditis, infective ...	...	...	...	...	...
Enteric Fever ...	4	93	42	97	10	
Erysipelas ...	1	4	2	5	...	
Gonorrhœa ...	28	313	...	341	11	
Influenza ...	...	2	...	2	...	
Leprosy ...	45	60	15	105	37	
Malaria ...	8	218	17	226	1	
Tertian ...	31	3,092	388	3,123	84	
Quartan ...	...	263	...	263	5	
Aestivo-autumnal ...	...	...	...	...	...
Chronic ...	4	279	90	283	17	
Not differentiated ...	19	882	25	901	16	
Measles ...	...	30	...	30	...	
Mumps ...	...	14	2	14	...	
Osteo Myelitis ...	...	1	...	1	...	
Phagedœna ...	2	3	2	5	...	
Plague ...	...	16	12	16	...	
Pneumonia ...	3	225	116	228	8	
Pyæmia ...	1	9	8	10	...	
Pyrexia ...	6	358	4	364	10	
Rheumatic Fever ...	2	61	1	63	6	
Septicæmia ...	...	34	24	34	1	
Small-pox ...	...	419	99	419	9	
Syphilis, Primary ...	18	200	1	218	24	
Secondary ...	84	705	24	789	74	
Tertiary ...	...	25	...	25	4	
Tetanus ...	...	5	4	5	...	
Tuberculosis ...	13	117	64	130	17	
Yaws ...	...	6	...	6	...	
Other Diseases ...	2	8	4	10	...	
INTOXICATIONS.						
Alcohol ...	...	47	1	47	...	
Mercury ...	...	...	...	...	...
Morphinism ...	1	5	...	6	...	
GENERAL DISEASES NOT INCLUDED IN THE TWO PRE- CEDING GROUPS.						
Anæmia ...	2	160	14	162	7	
" pernicious ...	...	...	...	...	...
Diabetes ...	2	1	1	3	...	
Exophthalmic Goitre ...	...	...	...	...	...
Gout ...	1	4	...	5	...	
Leucocythæmia ...	...	...	...	...	...
Lymphadenoma ...	...	...	...	...	...
Osteo Arthritis ...	...	...	...	...	...
Scurvy ...	...	...	...	...	...
Other Diseases ...	...	1	...	1	...	
CERTAIN MORBID CONDITIONS INCIDENT TO VARIOUS PARTS.						
Malformations ...	1	3	...	...	...
New Growth ...	...	...	...	...	...
Non-malignant ...	2	15	...	17	...	
Malignant ...	...	59	25	59	2	
Cyst ...	1	8	4	9	...	
Carried forward...	473	9,905	1,743	10,378	540	

Return of Diseases and Deaths in 1910 at the Singapore Hospitals.—Continued.

DISEASES.	Remain- ing in Hospital at end of 1909.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1910.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward ...</i>	473	9,905	1,743	10,378	540	
DISEASES OF THE NERVOUS SYSTEM.						
DISEASES OF THE NERVES.						
Neuritis ...	1	28	1	29	5	
DISEASES OF THE SPINAL CORD AND MEMBRANES.						
Meningitis ...	...	26	24	26	...	
Myelitis ...	4	6	...	10	4	
Sclerosis ...	5	2	...	7	...	
Locomotor Ataxia ...	5	19	...	24	10	
DISEASES OF THE BRAIN AND MEMBRANES.						
Meningitis ...	...	2	2	2	...	
Hæmorrhage ...	...	13	8	13	...	
Abscess ...	...	8	1	8	1	
Hydrocephalus ...	1	...	...	1	1	
Other Diseases ...	...	...	...	...	...
NERVOUS DISORDERS.						
Paraplegia ...	1	11	2	12	6	
Hemiplegia ...	10	49	1	59	8	
Monoplegia ...	...	1	...	1	...	
Chorea ...	1	...	...	1	...	
Epilepsy ...	7	12	5	19	8	
Headache ...	...	6	...	6	...	
Neuralgia ...	1	8	...	9	...	
Hysteria ...	...	1	...	1	...	
Neurasthenia ...	...	6	...	6	...	
Other Diseases ...	...	18	4	18	3	
MENTAL DISEASES.						
Idiocy ...	...	...	...	...	...
Mania, Acute ...	38	260	47	298	50	
Recurrent ...	6	2	1	8	3	
Chronic ...	9	1	2	10	8	
Alcoholic ...	...	...	...	...	...
Senile ...	...	5	1	5	1	
Melancholia, Acute ...	9	20	6	29	19	
Chronic ...	8	...	...	8	8	
Delusional Insanity ...	13	3	2	16	7	
General Paralysis of Insane...	3	2	3	5	...	
Dementia, Secondary ...	240	...	46	240	194	
Organic ...	...	5	...	5	5	
Primary ...	4	10	2	14	9	
Other Diseases ...	17	22	2	39	25	
DISEASES OF THE EYE.						
Conjunctivitis ...	11	193	...	204	8	
Purulent ...	1	16	...	17	2	
Granular ...	5	13	...	18	...	
Cornea Keratitis ...	1	14	...	15	3	
Ulcer ...	17	84	...	101	19	
Opacity ...	3	17	...	20	6	
Acquired deformities	4	...	...	4	...	
Iritis ...	4	40	...	44	7	
Glaucoma ...	...	...	...	...	...
Optic Neuritis ...	...	...	...	...	...
Cataract ...	3	3	...	6	1	
Panophthalmitis ...	...	5	...	5	2	
Refraction errors ...	...	...	...	...	...
Blepharitis ...	...	...	...	...	...
Entropion ...	...	...	...	...	...
Other Eye Diseases ...	10	32	...	42	24	
<i>Carried forward ...</i>	915	10,868	1,903	11,783	987	

Return of Diseases and Deaths in 1910 at the Singapore Hospitals.—Continued.

DISEASES.	Remain- ing in Hospital at end of 1909.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1910.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward ...</i>	915	10,868	1,903	11,783	987	
DISEASES OF THE EAR.						
Hæmatoma Auricle ...	...	...	...	...	...
External Ear, Inflammation.	...	1	...	1	...	
Middle Ear "	...	...	...	...	...
Otitis Media ...	...	6	...	6	...	
Other Diseases ...	...	15	...	15	...	
DISEASES OF THE NOSE.						
Coryza ...	...	...	...	...	...
Other Diseases ...	...	4	...	4	1	
DISEASES OF THE CIRCULATORY SYSTEM.						
Pericarditis ...	...	10	9	10	...	
Endocarditis ...	...	31	7	31	5	
Valvular Disease ...	4	111	28	115	7	
Myocarditis ...	...	1	1	1	...	
Dilatation of Heart ...	...	7	2	7	...	
Syncope ...	...	2	2	2	...	
Disordered Action of Heart	...	...	...	...	...
Aneurysm ...	1	10	10	11	...	
Phlebitis ...	...	...	...	...	...
Thrombosis ...	...	12	5	12	1	
Varix ...	...	2	...	2	...	
Other Diseases ...	...	16	8	16	1	
DISEASES OF THE RESPIRATORY SYSTEM.						
Asthma ...	1	29	...	30	1	
Laryngitis ...	...	4	1	4	...	
Bronchitis ...	10	240	9	250	12	
Hæmoptysis ...	...	1	...	1	...	
Broncho-pneumonia ...	...	4	3	4	1	
Phthisis ...	15	429	225	444	21	
Pleurisy ...	1	30	6	31	2	
Empyema ...	...	25	19	25	2	
Hæmothorax ...	...	...	...	...	...
Gangrene of Lung ...	...	17	16	17	...	
Other Diseases ...	...	18	15	18	...	
DISEASES OF THE DIGESTIVE SYSTEM.						
Stomatitis ...	...	12	1	12	1	
Ulceration of Mouth ...	...	...	...	...	...
Gangrene of Mouth ...	...	...	...	...	...
Caries of Tooth ...	...	6	...	6	...	
Ulceration of Tongue ...	...	...	...	...	...
Sore-throat ...	...	5	...	5	...	
Tonsillitis ...	1	10	...	11	...	
Pharyngitis ...	...	15	1	15	...	
Gastritis ...	...	56	2	56	4	
Ulceration, Stomach ...	...	5	1	5	...	
Dyspepsia ...	7	135	...	142	12	
Other Diseases of Stomach..	3	9	1	12	7	
Enteritis ...	3	79	4	82	...	
Appendicitis ...	3	14	1	17	1	
Colitis ...	...	37	1	37	...	
Ulcer Duodenum ...	...	1	1	1	...	
Intestines ...	...	...	...	...	...
Hernia ...	...	28	4	28	1	
Strangulated ...	1	...	...	1	...	
Obstruction, Intestines ...	...	7	3	7	...	
Diarrhœa ...	16	304	16	320	14	
Constipation ...	...	64	...	64	1	
<i>Carried forward ...</i>	981	12,680	2,305	13,661	1,082	

Return of Diseases and Deaths in 1910 at the Singapore Hospitals.—Continued.

DISEASES.	Remain- ing in Hospital at end of 1909.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1910.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward ...</i>	981	12,680	2,305	13,661	1,082	
DISEASES OF THE DIGESTIVE SYSTEM.— <i>Continued.</i>						
Colic ...	...	8	...	8	...	
Ischio Rectal Abscess ...	2	17	...	19	1	
Fissure of Anus ...	...	1	...	1	...	
Fistula in Ano ...	2	48	...	50	4	
Piles ...	1	54	...	55	1	
Prolapse of Rectum ...	...	1	...	1	...	
Other Rectal Diseases ...	1	...	...	1	...	
Liver, Inflammation ...	...	1	...	1	...	
Abscess ...	1	10	3	11	...	
Chronic Inflammation ...	7	...	...	7	...	
Perihepatitis ...	...	9	7	9	...	
Congestion ...	1	5	...	6	...	
Jaundice ...	...	15	...	15	...	
Gall Stones ...	...	...	...	...	...
Peritoneum, Inflammation ...	...	30	21	30	...	
Ascites ...	1	4	...	5	...	
Other Diseases ...	1	189	55	190	13	
DISEASES OF THE LYMPHATIC SYSTEM.						
Spleen, Inflammation ...	...	2	...	2	...	
Abscess ...	...	...	...	...	...
Rupture ...	...	3	3	3	...	
Glands, Inflammation ...	9	139	...	148	5	
Suppuration ...	1	8	...	9	1	
Mechanical Affections ...	...	...	...	...	...
Other Diseases ...	...	4	...	4	1	
DISEASES OF THE URINARY SYSTEM.						
Nephritis, Acute ...	1	30	7	31	1	
Chronic ...	11	1	2	12	...	
Pyelitis ...	...	...	...	...	...
Renal Colic ...	...	...	...	...	...
Cystitis ...	...	10	3	10	1	
Calculus ...	...	3	...	3	...	
Urine, Retention of ...	...	4	...	4	...	
Incontinence of ...	...	...	...	...	...
Other Diseases ...	...	117	46	117	9	
DISEASES OF THE GENERATIVE SYSTEM, (MALE ORGANS.)						
Stricture ...	...	16	...	16	1	
Urethral Fistula ...	...	2	...	2	...	
Extravasation of Urine ...	...	7	7	7	...	
Impacted Calculus ...	1	1	...	2	...	
Prostate Hypertrophy ...	...	...	...	...	...
Phimosis ...	2	19	...	21	...	
Paraphimosis ...	...	2	...	2	...	
Ulcer of Penis ...	...	...	...	...	...
Soft Chancre ...	6	12	...	130	...	
Scrotum, Abscess ...	...	2	...	2	...	
Sloughing ...	...	...	...	...	...
Hæmatocele ...	...	7	...	7	1	
Varicocele ...	...	...	...	...	...
Epididymitis ...	...	4	...	4	...	
Hydrocele ...	4	36	...	40	1	
Orchitis ...	...	21	...	21	...	
Abscess Testis ...	...	...	...	...	...
Hernia ...	...	9	...	9	...	
Perineal Abscess ...	...	...	...	...	...
Other Diseases ...	...	8	...	8	...	
<i>Carried forward...</i>	1,033	13,651	2,459	14,684	1,126	

Return of Diseases and Deaths in 1910 at the Singapore Hospitals.—Continued.

DISEASES.	Remain- ing in Hospital at end of 1909.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1910.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward...</i>	1,033	13,651	2,459	14,684	1,126	
DISEASES OF THE GENERATIVE SYSTEM. —Continued.						
(FEMALE ORGANS.)						
Metritis	...	2	...	2	...	
Endometritis	...	...	...	...	...
Erosion of Cervix	...	8	...	8	...	
Hyperplasia	...	...	...	...	...
Retroflexion	...	2	...	2	...	
Vulva, Inflammation	...	...	...	...	...
Abscess	...	4	...	4	...	
Ulcer	...	...	...	...	...
Soft Chancre	6	...	...	6	...	
Fistula Vesico, Vaginal	...	1	...	1	1	
Other Diseases	...	62	29	62	1	
Amenorrhœa	...	1	...	1	...	
Dysmenorrhœa	...	...	...	...	...
Menorrhagia	...	...	...	...	...
AFFECTIONS CONNECTED WITH PREGNANCY.						
Abortion	...	6	1	6	...	
Pregnancy	5	200	...	205	6	
DISEASES OF THE FEMALE BREAST.						
Mastitis	...	...	...	...	...
DISEASES OF THE ORGANS OF LOCOMOTION.						
Periostitis	...	9	...	9	2	
Caries	1	2	2	3	1	
Necrosis	2	11	...	13	2	
Arthritis	10	211	2	221	19	
Synovitis	6	36	1	42	1	
Ankylosis	1	1	...	2	...	
Spondylitis	...	...	...	...	...
Caries of Spine	1	4	...	5	2	
Myalgia	...	...	...	...	...
Other Diseases	2	117	2	119	4	
DISEASES OF THE CONNECTIVE TISSUE.						
Cellulitis	4	85	6	89	6	
Abscess	17	240	13	257	18	
Edema	2	11	...	13	...	
Gangrene	1	...	...	1	...	
Elephantiasis	...	...	...	...	...
Other Diseases	1	4	...	5	...	
DISEASES OF THE SKIN.						
Urticaria	...	2	...	2	...	
Eczema	1	102	...	103	4	
Impetigo	...	1	...	1	...	
Boil	2	73	...	75	...	
Carbuncle	...	4	1	4	...	
Herpes	...	2	...	2	...	
Bedsore	...	...	...	...	...
Pemphigus	...	1	...	1	...	
Psoriasis	...	7	...	7	...	
Dermatitis exfoliata	...	6	...	6	1	
<i>Carried forward ...</i>	1,095	14,866	2,516	15,961	1,194	

Return of Diseases and Deaths in 1910 at the Singapore Hospitals.—Concluded.

DISEASES.	Remain- ing in Hospital at end of 1909.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1910.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward ...</i>	1,095	14,866	2,516	15,961	1,194	
DISEASES OF THE SKIN. —Continued.						
Wart ...	...	...	...	...	...
Acne ...	1	2	...	3	...	
Whitlow ...	...	6	...	6	...	
Ulcer ...	96	740	...	836	...	
Other Diseases ...	1	112	...	113	...	
INJURIES ...	33	1,621	55	1,654	...	
POISONS ...	...	10	1	10	...	
PARASITES.						
Round Worm ...	...	...	...	...	...
Tape-worm ...	...	...	...	...	...
Ankylostoma Duodenale ...	16	72	30	88	7	
Filiariasis ...	...	...	...	...	...
Scabies ...	3	25	...	28	...	
Ringworm ...	...	12	...	12	1	
Dhobi Itch ...	...	...	...	...	...
Others ...	...	10	2	10	...	
OBSERVATIONS. ...	...	29	...	29	2	
NO DISCOVERABLE DISEASE ...	...	384	18	384	6	
TOTAL ...	1,245	17,889	2,622	19,134	1,345	

LABUAN.

Return of the Statistics of Population for the Year 1910.

	Europeans.	Eurasians.	Malays.	Chinese.	Tamils.	Other Nationalities.	TOTAL.
Number of inhabitants in 1909 ...	Records	unreliable.	...	...	...	...	8,231
„ Births during the year 1910	1	1	158	67	2	6	235
„ Deaths „ „ 1910	1	2	159	98	3	4	267
„ Immigrants „ „ 1910	} Not obtainable.						
„ Emigrants „ „ 1910							
Number of inhabitants in 1910 ...	...	...	...	...	...	...	8,199
Increase	0	...	...	...	...	2	...
or Decrease	0	1	1	31	1	...	...

Meteorological Return for the Year 1910.

	TEMPERATURE.						RAINFALL.		WINDS.		REMARKS.
	Solar Maximum.	Minimum on Grass.	Shade Maximum.	Shade Minimum.	Range.	Mean.	Amount in Inches.	Degree of Humidity.	General Direction.	Average Force.	
January	No instrument for recording.	No instrument for recording.	°F 83·38	°F 77·32	°F 6·06	°F 82·10	Ins. 5·27	% 73·46	N.E.	No instrument for recording.	
February			82·14	76·46	5·68	81·46	9·77	75·46	N.E.		
March			85·19	76·70	8·49	82·70	8·69	72·67	N.E.		
April			86·23	77·30	8·93	83·65	13·40	68·90	S.W.		
May			86·58	77·00	9·58	84·05	12·42	65·80	S.W.		
June			85·30	76·36	8·94	82·69	13·20	70·50	S.W.		
July			85·74	76·48	9·26	83·00	17·74	70·29	S.W.		
August			85·87	76·06	9·81	82·73	13·22	69·87	S.W.		
September			85·36	75·96	9·40	83·15	8·57	72·96	S.W.		
October			86·64	74·80	11·84	86·54	19·17	61·29	S.W.		
November			85·73	75·70	10·03	84·15	17·13	74·44	S.W.		
December			88·51	76·45	12·06	85·90	12·67	70·22	S.W.		
Total	
Monthly Average	155·0	74·5	85·55	76·38	9·17	83·51	Total 151·25	70·48	

LABUAN.

Return of Diseases and Deaths in 1910 at the Labuan Hospital.

DISEASES.	Remain- ing in Hospital at end of 1909.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1910.	REMARKS.
		Admis- sions.	Deaths.			
INFECTIVE DISEASES.						
Beri-beri ...	3	44	8	47	10	
Chicken-pox	2	...	2	...	
Dysentery ...	1	4	...	5	...	
Gonorrhœa	5	...	5	...	
Leprosy	1	1	1	...	
Malaria, Bening Tertian	97	1	97	2	
" Sub-tertian	19	2	19	1	
" Chronic	5	...	5	1	
Pneumonia	1	...	1	...	
Septicæmia	1	1	1	...	
Syphilis, Primary	2	...	2	...	
" Secondary	2	...	2	...	
Tetanus	1	1	1	...	
Tuberculosis, Bone, caries of	3	...	3	...	
" Glands, neck	2	...	2	...	
" Joints, knee	1	...	1	...	
" Lungs ...	1	10	5	11	1	
" Spine, caries of	3	...	3	...	
INTOXICATION.						
Alcohol	1	...	1	...	
GENERAL DISEASES.						
Anæmia	2	...	2	...	
General Debility	2	...	2	...	
DISEASES OF NERVOUS SYSTEM.						
Neuritis	2	...	2	...	
Acute Mania	1	...	1	...	
Malancholia	1	...	1	...	
Dementia	2	2*	2	...	* One Diarrhœa, One Heart failure.
DISEASES OF EYE.						
Conjunctivitis Catarrhal	2	...	2	...	
Trachoma	2	...	2	...	
Phlyctenular ulcer Cornea	1	...	1	...	
Panophthalmitis	1	...	1	...	
Cataract, Double	1	...	1	...	
Entropion and Trichiasis	2	...	2	...	
DISEASES OF EAR.						
Otitis Media	2	...	2	...	
DISEASES OF CIRCULATORY SYSTEM.						
Valvular D. H., Mitral	2	1	2	...	
DISEASES OF RESPIRATORY SYSTEM.						
Asthma	1	...	1	...	
Bronchitis	2	...	2	...	
Broncho-pneumonia	1	...	1	...	
Pleurisy	1	...	1	...	
Carried forward ...	5	232	22	237	15	

Return of Diseases and Deaths in 1910 at the Labuan Hospital—Continued.

DISEASES.	Remain- ing in Hospital at end of 1909.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1910.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward ...</i>	5	232	22	237	15	
DISEASES OF DIGESTIVE SYSTEM.						
Pyorrhœa Alveolaris	1	...	1	...	
Pharyngitis	1	...	1	...	
Gastritis	2	...	2	...	
Gastro-enteritis	1	...	1	...	
Colitis, Catarrhal	1	...	1	...	
Diarrhœa	5	...	5	...	
Fistula in Ano	1	...	1	...	
Hæmorrhoids, Internal	1	...	1	...	
Cirrhosis of Liver, Alcoholic	1	1	1	...	
Jaundice, Catarrhal	1	...	1	...	
DISEASES OF LYMPHATIC SYSTEM.						
Splenitis	3	...	3	...	
Bubo	2	...	2	...	
Lymphadenitis*	2	...	2	...	
Lymphangitis	3	...	3	...	
DISEASES OF GENERATIVE SYSTEM.						
(MALE.)						
Stricture of Urethra, Gonorrhœal	1	...	1	...	
Hypertrophy of Prostate, retention of urine	1	...	1	...	
Soft Chancres	3	...	3	...	
(FEMALE.)						
Puerperal Supræmia	1	...	1	...	
DISEASES OF ORGANS OF LOCOMOTION.*						
Arthritis, Gonorrhœal, wrist.	1	...	1	...	
Ankylosis, Fibrous, shoulder.	1	...	1	...	
DISEASES OF CONNECTIVE TISSUE.						
Cellulitis	2	...	2	1	
Abscess	11	...	11	...	
DISEASES OF SKIN.						
Boil	2	...	2	...	
Ulcer	13	...	13	1	
INJURIES.						
General	9	3	9	2	
Local ...	1	14	...	15	1	
PARASITES.						
Anchylostomum Duodenale	2	1	2	...	
Schistosomum Japonicum	1	...	1	...	
Favus	1	...	1	...	
Tinea Circinata	1	...	1	...	
"For Observation"	4	...	4	...	
No Discoverable Disease	7	...	7	...	
Total ...	6	332	27	338	20	

* See also "Tuberculosis" Infective Diseases.

*List of Operations done at the Civil Hospital, Labuan, during the
year 1910.*

DISEASES.	Remain- ing in Hospital at end of 1909.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1910.	REMARKS.
		Admis- sions.	Deaths.			
OPERATIONS.						
ON SKIN AND SUBCUTANEOUS TISSUES.						
Incision of abscesses and drainage	3	...	3	...	
Multiple incisions for Cellu- litis	2	...	2	...	
Removal of buried needle	1	...	1	...	
Plastic Operation	1	...	1	...	
Skin Grafting (Thiersch)	2	...	2	...	
ON EYE.						
Excision of Eyeball	1	...	1	...	
Extraction of Lens	1	...	1	...	
For Entropion (Arlt's)	2	...	2	...	
ON ANUS.						
Anal Fistula	1	...	1	...	
ON BONES AND JOINTS.						
Amputations	3	...	3	...	
Setting Fractures (compound)	2	...	2	...	
Removal of Sequestra	2	...	2	...	
Excision of Olecranon	1	...	1	...	
Breaking down Fibrous Ankylosis	1	...	1	...	
Resection of rib for tuber- cular caries	1	...	1	...	
Psoas Abscess ... (opened and drained from the back)	...	1	...	1	...	
Total	25	...	25	...	

					Europeans.	Eurasians.	Malays.	Chinese.	Tamils.	Other Nationalities.	TOTAL.
Number of inhabitants in 1910	...				906	1,857	32,955	78,767	17,735	2,123	134,343 P.
					4,634 D.
" Births during the year 1910					35	35	1,001	1,487	392	75	3,025 P.
					163	27	19	3	212 D.
" Deaths " " 1910					12	32	961	2,916	1,101	92	5,119 P.
					...	1	86	72	52	3	214 D.
" Immigrants " 1910					No data available.						
" Emigrants " 1910											
Number of inhabitants in 1909	...				914	1,833	33,096	77,942	17,840	2,072	133,697 P.
					4,575 D.
					...	24	...	825	...	51	900 P.
Increase or Decrease	59 D.
					8	...	141	...	105	...	254 P.

[illegible]

PENANG.

*Return of Diseases and Deaths in 1910 at the following Institutions:—
General, District, Lock, Prison, Quarantine Camp, Jelutong, Balik Pulau, Leper
Hospital, Pulau Jerejak, Lumut, Female Leper Ward, Jelutong and Female Ward,
District Hospital.*

DISEASES.	Remain- ing in Hospital at end of 1909.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1910.	REMARKS.
		Admis- sions.	Deaths.			
INFECTIVE DISEASES.						
Beri-beri	32	200	53	232	36	
Chicken-pox	...	63	...	63	10	
Cholera	...	1	1	1	...	
Diphtheria	...	1	1	1	...	
Dysentery	15	339	146	354	5	
Enteric Fever	...	12	2	12	1	
Erysipelas	...	2	...	2	...	
Gonorrhœa	3	85	1	88	3	
" Ophthalmia	3	18	...	21	2	
" Arthritis	2	3	...	5	...	
" Iritis	1	2	...	3	...	
Leprosy	438	233	194	671	403	
Malaria	8	291	10	299	5	
" Benign Tertian	6	389	24	395	8	
" Malignant	5	143	26	148	7	
Malarial Cachexia	3	95	12	98	15	
Measles	...	19	...	19	...	
Osteo Myelitis	...	2	...	2	...	
Mumps	...	4	...	4	...	
Phagedœna	...	25	10	25	3	
Pneumonia	...	33	16	33	1	
Rheumatism	23	288	...	311	32	
Septicæmia	...	4	4	4	...	
Small-pox	...	483	122	483	51	
Primary, Syphilis	7	33	...	40	3	
Secondary "	48	360	5	408	42	
Tertiary "	6	26	2	32	4	
Tetanus	1	6	3	7	...	
Tuberculosis	1	14	1	15	...	
Yaws	...	1	...	1	...	
INTOXICATION.						
Alcoholism	...	48	...	48	1	
Morphia Habit	1	11	1	12	...	
Opium "	...	3	...	3	...	
DISEASES NOT INCLUDED IN TWO PRECEDING GROUPS.						
Anæmia	25	239	51	264	12	
Anæmia, Chr. Spleen	3	21	3	24	...	
Diabetes Mellitus	...	1	...	1	...	
Gout	...	1	...	1	...	
Lymphadenoma	1	...	1	1	...	
Osteo-arthritis	2	6	...	8	...	
CERTAIN MORBID CONDI- TIONS INCIDENT TO VARIOUS PARTS.						
Malformation	...	1	...	1	...	
New-growths, Malignant	3	14	4	17	...	
" Non-Malignant	2	11	1	13	..	
NERVOUS SYSTEM.						
Neuritis	1	29	2	30	4	
Multiple Neuritis	1	...	...	1	...	
Peripheral "	...	2	...	2	...	
Carried forward...	641	3,562	696	4,203	648	

Return of Diseases and Deaths in 1910 at the Penang Hospitals.—Continued.

DISEASES.	Remain- ing in Hospital at end of 1909.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1910.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward...</i>	641	3,562	696	4,203	648	
NERVOUS SYSTEM.— <i>Continued.</i>						
Myelitis ...	...	1	...	1	...	
Embolism ...	...	1	...	1	1	
Spastic Paraplegia ...	3	...	...	3	...	
Lateral Sclerosis ...	1	...	...	1	1	
Meningitis ...	...	1	1	1	...	
Hæmorrhage ...	...	2	...	2	...	
Hæmorrhage Cerebral ...	...	4	2	4	...	
Paralysis ...	1	...	...	1	...	
Paraplegia ...	...	7	3	7	...	
Hemiplegia ...	8	30	6	38	7	
Monoplegia ...	...	2	1	2	...	
Paralysis Agitans ...	...	2	...	2	...	
Eclampsia ...	...	5	4	5	...	
Epilepsy ...	...	8	1	8	...	
Headache ...	...	4	...	4	...	
Neuralgia ...	...	4	...	4	...	
Sciatica ...	...	1	...	1	...	
Hiccup ...	...	1	...	1	...	
Neurasthenia ...	1	3	...	4	...	
Mania ...	...	2	...	2	...	
Puerperal Mania ...	...	1	...	1	...	
Melancholia ...	...	1	...	1	...	
Delusional Insanity ...	...	2	...	2	...	
Dementia ...	5	6	1	11	3	
DISEASES OF THE EYE.						
Acute Conjunctivitis ...	3	29	...	32	2	
Chronic " ...	...	2	...	2	...	
Trachoma ...	4	15	...	19	6	
Keratitis ...	...	2	...	2	...	
Ulcer Cornea ...	...	24	...	24	3	
Keratomalasia ...	...	1	...	1	...	
Arcus Serilis ...	1	1	...	2	...	
Opacity Cornea ...	3	12	...	15	...	
Staphyloma ...	...	3	...	3	1	
Gon. Scleritis ...	...	1	...	1	1	
Iritis ...	1	16	...	17	3	
Choroiditis ...	...	1	1	1	...	
Optic Atrophy ...	...	9	...	9	1	
Retinal Atrophy ...	...	1	...	1	...	
Detachment of Retina ...	...	1	...	1	...	
Cataract ...	1	14	...	15	4	
Panophthalmitis ...	...	2	...	2	...	
Amblyopia ...	...	5	...	5	5	
Amaurosis ...	1	5	1	6	...	
Entropion ...	...	1	...	1	...	
Ectropion ...	...	1	...	1	...	
DISEASES OF THE EAR.						
Otitis Media ...	...	5	...	5	...	
Mestoid Abscess ...	...	1	...	1	...	
Suppurative Middle Ear ...	...	1	...	1	...	
DISEASES OF THE NOSE.						
Rhinitis ...	...	2	...	2	...	
Hæmatoma of Septum ...	...	1	...	1	...	
Naso-pharyngeal Catarrh ...	...	1	...	1	...	
DISEASES OF THE CIRCULATORY SYSTEM.						
Valv. Disease Mitral ...	...	34	10	34	...	
" Aortic ...	...	5	1	5	1	
<i>Carried forward...</i>	674	3,846	728	4,520	687	

Return of Diseases and Deaths in 1910 at the Penang Hospitals.—Continued.

DISEASES.	Remain- ing in Hospital at end of 1909.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1910.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward...</i>	674	3,846	728	4,520	687	
DISEASES OF THE CIRCULATORY SYSTEM. —Continued.						
Atheroma ...	...	1	...	1	...	
Fatty degeneration Heart ...	...	2	1	2	...	
Dilatation ...	1	4	1	5	...	
Tachycardia ...	...	1	...	1	...	
Arterial Sclerosis ...	1	...	...	1	...	
Aneurysm popliteal ...	1	...	...	1	...	
Traumatic Aneurysm ...	...	1	...	1	...	
Phlebitis ...	...	2	...	2	...	
DISEASES OF THE RESPIRATORY SYSTEM.						
Asthma ...	...	20	1	20	...	
Oedema Glottis ...	...	1	1	1	...	
Bronchitis ...	...	106	7	106	12	
Hæmoptysis ...	...	3	...	3	...	
Catarrhal Pneumonia ...	...	6	1	6	1	
Fibroid Phthisis ...	3	3	3	6	...	
Phthisis ...	19	246	144	265	27	
Abscess Lung ...	...	1	1	1	...	
Pleurisy ...	...	9	2	9	1	
Empyema ...	2	2	1	4	...	
DISEASES OF THE DIGESTIVE SYSTEM.						
Stomatitis ...	...	3	1	3	...	
Cancrum Oris ...	...	1	1	1	...	
Caries Tooth ...	...	2	...	2	...	
Abscess Alveolar ...	...	2	...	2	...	
Caries „ ...	...	1	...	1	...	
Sore-throat ...	...	1	...	1	...	
Tonsillitis ...	...	3	...	3	...	
Pharyngitis ...	...	6	...	6	...	
Stricture Oesophagus ...	...	2	...	2	...	
Gastritis ...	...	6	1	6	...	
Hæmatemesis ...	...	1	...	1	...	
Dyspepsia ...	1	27	...	28	1	
Gestralgia ...	...	3	...	3	...	
Enteritis ...	...	11	...	11	...	
Appendicitis ...	...	3	2	3	...	
Colitis ...	...	1	...	1	...	
Ulcerative Colitis ...	4	...	4	4	...	
Sprue ...	1	1	1	2	...	
Hernia, Irreducible ...	...	1	1	1	...	
„ Ventral ...	...	1	...	1	...	
„ Inguinal ...	...	14	...	14	1	
Intestinal Obstruction ...	...	3	2	3	...	
Diarrhœa ...	13	269	71	282	22	
Constipation ...	...	22	...	22	...	
Ulcer Rectum ...	...	1	...	1	...	
Colic ...	...	34	...	34	...	
Ischio Rectal Abscess ...	1	1	...	2	...	
Ulceration Anus ...	1	4	...	5	...	
Fistula in Ano ...	3	12	...	15	1	
Piles ...	...	1	...	1	...	
Recto Vaginal Fistula ...	...	1	...	1	...	
Hæmorrhoids (Int.) ...	1	8	...	9	...	
Prolapse Ani ...	...	1	...	1	...	
Prolapse Rectum ...	...	5	...	5	...	
Condyloma Ani ...	1	...	...	1	...	
Abscess Liver ...	...	1	...	1	...	
Inflammation ...	...	3	...	3	...	
Cirrhosis Liver ...	4	25	17	29	1	
<i>Carried forward...</i>	731	4,735	992	5,466	754	

Return of Diseases and Deaths in 1910 at the Penang Hospitals.—Continued.

DISEASES.	Remain- ing in Hospital at end of 1909.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1910.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward ...</i>	731	4,735	992	5,466	754	
DISEASES OF THE DIGESTIVE SYSTEM.— <i>Continued.</i>						
Perihepatitis ...	...	2	1	2	...	
Jaundice ...	...	6	...	6	...	
Peritonitis ...	...	3	2	3	...	
Ascites ...	...	2	...	2	...	
DISEASES OF THE LYMPHATIC SYSTEM.						
Bubo ...	4	80	...	84	15	
Inflammation of Glands ...	2	8	...	10	...	
Suppuration „ ...	...	3	...	3	...	
Lymphangitis ...	...	3	...	3	...	
DISEASES OF THE URINARY SYSTEM.						
Acute Nephritis ...	...	8	...	8	...	
Bright's Disease ...	...	47	14	47	1	
Chronic Nephritis ...	...	1	1	1	...	
Pyelitis ...	...	2	1	2	...	
Anterio-sclerotic Kidney ...	...	1	...	1	...	
Renal Calculus ...	...	1	...	1	...	
Cystitis ...	...	6	...	6	2	
Retention of Urine ...	...	3	...	3	...	
Hæmaturia ...	...	1	...	1	...	
Albuminuria ...	...	2	1	2	...	
DISEASES OF THE GENERATIVE SYSTEM.						
Stricture Urethra ...	...	5	...	5	...	
Urethral Fistula ...	...	1	...	1	...	
Extravasation of Urine ...	...	1	...	1	...	
Impacted Calculi Urethra ...	...	1	...	1	...	
Phimosis ...	...	17	...	17	3	
Paraphimosis ...	1	3	...	4	...	
Ulcer Penis ...	8	122	...	130	4	
Soft Chancre ...	2	30	1*	32	4	
Inflammation Scrotum ...	...	1	...	1	...	
Sloughing Scrotum ...	...	1	...	1	...	
Hydrocele ...	...	28	...	28	1	
Orchitis ...	...	7	...	7	...	
Epididymitis ...	...	5	...	5	...	
Hernia Testis ...	...	3	...	3	...	
Pelvic Cellulitis ...	...	1	...	1	...	
Endometritis ...	...	5	...	5	...	
Granulor Erosion Cervix ...	...	3	...	3	...	
Ulcer Vulva ...	1	26	...	27	...	
Oedema of Labia ...	...	1	...	1	...	
Ulcer of Labia ...	...	8	...	8	3	
Meteorrhagia ...	...	1	...	1	...	
Leucorrhœa ...	1	2	...	3	...	
Vaginismus ...	...	1	...	1	...	
Metritis ...	...	3	...	3	...	
AFFECTIONS CONNECTED WITH PREGNANCY.						
Pregnancy ...	...	8	...	8	1	
Labour ...	...	2	...	2	...	
Vaginal Cyst ...	...	1	...	1	...	
Premature birth ...	1	...	...	1	...	
<i>Carried forward ...</i>	751	5,201	1,013	5,952	788	

* Dysentery.

Return of Diseases and Deaths in 1910 at the Penang Hospitals.—Continued.

DISEASES.	Remain- ing in Hospital at end of 1909.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1910.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward ...</i>	751	5,201	1,013	5,952	788	
DISEASES OF THE GENERATIVE SYSTEM. —Continued.						
AFFECTIONS CONSEQUENT ON PARTURITION.						
Puerperal Supraemia ...	...	1	...	1	...	
Pelvic Abscess ...	...	1	...	1	...	
Mastitis ...	...	1	...	1	...	
DISEASE OF ORGANS OF LOCOMOTION.						
Periostitis ...	...	3	...	3	1	
Caries (bone) ...	...	6	1	6	...	
Necrosis ...	...	2	...	2	2	
Arthritis ...	3	8	1	11	...	
Tubercular disease Hip joint ...	...	2	...	2	...	
Synovitis ...	2	32	...	34	5	
Ankylosis ...	...	2	...	2	...	
Caries Spine ...	1	2	...	3	1	
Psoas Abscess ...	...	1	...	1	...	
Dislocation of Spine ...	...	1	...	1	1	
Lumbago ...	...	5	...	5	...	
Myalgia ...	...	10	...	10	...	
Thecal Abscess ...	...	2	...	2	...	
Suppuration Bursitis ...	...	1	...	1	...	
DISEASES OF THE CONNECTIVE TISSUE.						
Cellulitis ...	3	25	2	28	1	
Abscess ...	12	123	5	135	19	
Sinus ...	...	4	...	4	1	
Elephantiasis ...	...	3	...	3	1	
DISEASES OF THE SKIN.						
Eczema ...	4	29	...	33	1	
Impetigo Contagiosa ...	...	2	...	2	1	
Boil ...	...	15	...	15	1	
Carbuncle ...	2	10	...	12	...	
Gangrene Leg ...	...	1	1	1	...	
Herpes ...	...	1	...	1	...	
Herpes Zoster ...	...	4	...	4	...	
Pemphigus ...	1	...	...	1	...	
Ulcers ...	62	862	8	924	64	
Lichen ...	...	1	...	1	...	
Warts ...	...	4	...	4	...	
Corn ...	...	2	...	2	...	
Sebaceous Cyst ...	...	1	...	1	...	
Pustular Dermatitis ...	...	2	...	2	1	
Onychia ...	1	3	...	4	...	
Whitlow ...	...	3	...	3	...	
Starvation ...	4	55	14	59	2	
INJURIES.						
General Injuries ...	4	49	1	53	3	
Local „ ...	21	366	8	387	13	
OPERATIONS.						
For Imperforate Anus ...	...	1	1	1	...	
Circumcision ...	...	1	...	1	...	
<i>Carried forward ...</i>	871	6,848	1,055	7,719	906	

Return of Diseases and Deaths in 1910 at the Penang Hospitals.—Continued.

DISEASES.	Remain- ing in Hospital at end of 1909.	YEARLY TOTAL.		Total cases Treated.	Remain- ing in Hospital at end of 1910.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward ...</i>	871	6,848	1,055	7,719	906	
POISONS.						
Opium ...	...	1	1	1	...	
Hydrophobia ...	...	1	1	1	...	
Horse bite ...	...	1	...	1	...	
Insect bite ...	...	3	...	3	...	
Opium Habit ...	...	5	...	5	...	
Arsenic ...	...	1	...	1	...	
Stramonium ...	...	8	...	8	...	
Crocodile bite ...	...	2	...	2	...	
Fish bite ...	...	1	...	1	...	
PARASITES.						
Scabies ...	1	64	...	65	3	
Tenia Imbricata ...	3	11	...	14	2	
" Crusis ...	...	1	...	1	...	
Filaria (Diurna) ...	1	...	...	1	...	
Pediculosis Vestimenti ...	...	1	...	1	...	
Ankylostomiasis ...	8	50	16	58	1	
Malingering ...	...	21	...	21	...	
Observation ...	6	181	1*	187	5	
No Appreciable Disease ...	2	107	...	109	1	
Nil ...	1	15	...	16	1	
GRAND TOTAL ...	893	7,322	1,074	8,215	919	
OPERATIONS.						
EXCISION OF TUMORS.						
Non-malignant ...	...	1	...	1	...	
Malignant ...	...	2	...	2	...	
ON THE SKIN AND SUB- CUTANEOUS TISSUES.						
Incision of Abscesses ...	...	12	...	12	...	
" Carbuncle ...	...	1	...	1	...	
Incisions for Cellulitis ...	...	8	...	8	...	
Incisions for Lymphangitis ...	...	1	...	1	...	
Incisions for Suppurating Glands ...	...	6	...	6	...	
Excisions of Lymphatic Glands ...	...	3	...	3	...	
Curettage of Ulcers ...	...	14	...	14	...	
Curettage of Sinuses ...	...	6	...	6	...	
Removal of Foreign Body ...	...	1	...	1	...	
Lacerated wound of Thigh...	...	1	...	1	...	
ON THROAT, NOSE, EYE AND LIP.						
Tracheotomy ...	...	1	...	1	...	
Plastic operation for harelip ...	...	1	...	1	...	
Excision of Eyeball ...	...	3	...	3	...	
Canterisation for rhinitis ...	...	1	...	1	...	
ON ABDOMEN.						
Laparotomy for Tubercular peritonitis ...	...	1	...	1	...	
Ovarian cyst ...	...	1	...	1	...	
Intestinal obstruction ...	...	1	...	1	...	
Intestinal anastomosis for strangulated hernia ...	...	1	...	1	...	
Perforating wound of abdomen ...	...	1	...	1	...	
Appendicitis ...	...	2	...	2	...	
<i>Carried forward ...</i>	...	69	...	69	...	

* Suicide by hanging.

Operations in 1910 at the Penang Hospitals.—Concluded.

DISEASES.	Remain- ing in Hospital at end of 1909.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1910.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward ...</i>	...	69	...	69	...	
OPERATIONS.— <i>Concluded.</i>						
ON ABDOMEN—Concluded.						
Inguinal Colotomy	1	...	1	...	
Suturing wound of abdominal Wall	1	...	1	...	
Radical cure for inguinal hernia	2	...	2	...	
Strangulated Hernia	1	...	1	...	
ON RECTUM AND ANUS.						
Anal Fistula	5	...	5	...	
Prolapsus Recti	2	...	2	...	
Hæmorrhoids	1	...	1	...	
ON THE MALE GENERATIVE ORGANS.						
Circumcision	26	...	26	...	
Hydrocele	16	...	16	...	
ON THE FEMALE GENERA- TIVE ORGANS.						
Curetting of uterus	3	...	3	...	
Removal of fallopian tube for Pyosalpiun	1	...	1	...	
ON BONES AND JOINTS.						
Amputations	16	...	16	...	
Setting fractures and wiring	6	...	6	...	
Removal of sequestra	7	...	7	...	
Excision of bone	2	...	2	...	
Incision of joints	2	...	2	...	
Psoas Abscess	1	...	1	...	
ON THORAN.						
Thoracotomy	2	...	2	...	
ON SPINAL CORD.						
Laminectomy	1	...	1	...	
Injection of Maguesium	
Sulphate solution	1	...	1	...	
Total	166	...	166	...	

PROVINCE WELLESLEY.

Return of the Statistics of Population for the Year 1910.

—				Europeans.	Eurasians.	Malays.	Chinese.	Tamils.	Other Nationalities.	TOTAL
Number of inhabitants in 1910	...			267	335	69,109	29,542	22,227	1,809	123,289
„ Births during the year 1910				7	13	2,451	590	499	80	3,640
„ Deaths „ „ 1910				...	6	2,016	942	1,152	69	4,185
„ Immigrants „ 1910				} No data available.						
„ Emigrants „ 1910										
Number of Inhabitants in 1909	...			253	329	69,079	29,016	21,857	1,682	122,216
Increase ... ..	...	...	...	14	6	30	525	370	127	1,073
Decrease ... ..	...	...	...	...	...	...	...	...	...	...

Meteorological Return for the Year 1910.

—				TEMPERATURE.				RAINFALL.		WINDS.		REMARKS.		
				Solar Maximum.	Minimum on Grass.	Shade Maximum.	Shade Minimum.	Range.	Mean.	Amount in Inches.	Degree of Humidity.		General Direction.	Average Force.
				°F	°F	°F	°F	°F	°F	Inches.	o/o			
January	...	...	...	148·8	69·8	90·0	71·5	18·5	80·7	12·81	78·0	W.	4	
February	...	...	...	145·0	70·1	89·7	71·9	17·8	80·8	19·15	76·0	W.	4	
March	...	...	...	143·7	70·1	90·0	72·0	18·0	81·0	27·66	76·0	N.W.	4	
April	...	...	...	148·6	70·3	90·5	72·3	18·2	81·4	11·40	74·0	N.W.	4	
May	...	...	...	145·7	70·3	90·9	72·6	18·3	81·7	28·29	75·0	N.	4	
June	...	...	...	148·0	71·1	90·6	73·4	17·2	82·0	20·13	76·0	N.	4	
July	...	...	...	150·3	70·3	91·1	72·4	18·7	81·7	16·89	74·0	N.	4	
August	...	...	...	150·0	70·4	91·9	72·8	19·1	82·3	16·80	72·0	N.	5	
September	...	...	...	150·0	68·9	91·3	72·6	18·7	81·9	10·11	75·0	S.W.	4	
October	...	...	...	148·0	69·4	89·9	72·3	17·6	81·1	27·66	81·0	S.W.	4	
November	...	...	...	142·0	69·2	87·8	72·2	15·6	80·0	38·75	84·0	N.W.	3	
December	...	...	...	144·3	68·9	88·6	72·2	16·4	80·4	26·05	82·0	N.W.	4	
Mean	...	...	...	147·0	69·9	90·1	72·3	17·8	81·2	Total 250·70	77·0			

PROVINCE WELLESLEY.

*Return of Diseases and Deaths in 1910 at the following Institutions:—
Butterworth, Bukit Mertajam and Sungai Bakap Hospitals.*

DISEASES	Remain- ing in Hospital at end of 1909.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1910.	REMARKS.
		Admis- sions.	Deaths.			
INFECTIVE DISEASES.						
Beri-beri ...	6	41	4	47	4	
Cerebro-Spinal fever ...	...	3	2	3	1	
Chicken-pox ...	...	13	...	13	...	
Cholera ...	...	3	3	3	...	
Dysentery ...	7	200	79	207	1	
Enteric fever ...	...	4	3	4	...	
Erysipelas ...	...	3	...	3	1	
Gonorrhœa ...	1	30	...	31	1	
Gonorrhœal Arthritis ...	2	27	...	29	2	
„ „ Orchitis ...	...	1	...	1	...	
Leprosy ...	...	14	1	14	...	
Malarial Fever, B. Tertian ...	3	214	...	217	1	
„ „ Quartan ...	...	3	...	3	...	
„ „ Malignant ...	3	170	12	173	...	
Malaria Cerebral ...	...	8	4	8	...	
Malarial Cachexia ...	...	46	8	46	3	
Ague-Cake ...	1	2	...	3	...	
Measles ...	1	21	...	22	1	
Mumps ...	...	8	...	8	...	
Phagedœna ...	...	8	6	8	...	
Pneumonia ...	...	20	7	20	...	
Pyæmia ...	...	1	1	1	...	
Pyrexia of uncertain Origin ...	1	41	...	42	1	
Rheumatism ...	1	16	...	17	2	
Septicæmia ...	...	3	3	3	...	
Small-pox ...	...	84	22	84	6	
Syphilis, Primary ...	2	20	...	22	...	
„ „ Secondary ...	8	159	3	167	4	
„ „ Tertiary ...	1	13	...	14	2	
Gummata brain ...	...	1	1	1	...	
Tetanus ...	...	1	1	1	...	
Tubercle ...	...	9	...	9	3	
Yaws ...	...	4	...	4	...	
INTOXICATIONS.						
Alcoholism ...	...	6	...	6	...	
Mercurialism ...	...	1	...	1	...	
Morphia Habit ...	...	7	1	7	...	
GENERAL DISEASES NOT INCLUDED IN THE TWO PRECEDING GROUPS.						
Anæmia ...	2	53	9	55	2	
CERTAIN MORBID CON- DITIONS INCIDENT TO VARIOUS PARTS.						
New-growth, Non-Malignant ...	...	6	1	6	1	
„ „ Malignant ...	3	10	7	13	...	
Cyst ...	...	2	...	2	...	
DISEASES, NERVOUS SYSTEM.						
Neuritis ...	...	7	...	7	...	
Sciatica ...	...	1	...	1	...	
Myelitis ...	1	6	2	7	1	
Locomotor Ataxia ...	...	2	...	2	...	
Meningitis ...	...	1	1	1	...	
Cerebral Hæmorrhage ...	...	1	...	1	...	
Carried forward ...	43	1,294	181	1,337	37	

*Return of Diseases and Deaths in 1910 at the Province Wellesley
Hospitals.—Continued.*

DISEASES.	Remain- ing in Hospital at end of 1909.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1910.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward ...</i>	43	1,294	181	1,337	37	
DISEASES NERVOUS SYSTEM.—Continued.						
Disseminated Sclerosis ...	1	1	...	2	1	
Apoplexy ...	...	3	3	3	...	
Facial Paralysis ...	...	3	...	3	...	
Hemiplegia ...	2	9	1	11	1	
Paraplegia ...	...	1	...	1	...	
Spastic Paraplegia ...	1	...	...	1	...	
Epilepsy ...	...	1	...	1	...	
Neuralgia ...	...	9	...	9	...	
General Paralysis of Insane.	...	2	2	2	...	
DISEASES OF THE EYE.						
Conjunctivitis ...	...	6	...	6	1	
" Catarrhal ...	...	2	...	2	...	
" Granular ...	1	6	...	7	...	
" Purulent ...	...	1	...	1	...	
Lachrymal Abscess ...	...	1	...	1	...	
Keratitis ...	...	3	...	3	...	
Ulcer Cornea ...	1	7	...	8	...	
Opacity Cornea ...	...	3	...	3	...	
Cataract ...	...	3	...	3	1	
Panophthalmitis (Traumatic)	...	1	...	1	...	
Entropion ...	...	2	...	2	...	
DISEASES OF THE EAR.						
Otitis Externa ...	1	4	...	5	...	
" Media ...	...	1	..	1	...	
DISEASES OF THE NOSE.						
Epistaxis ...	...	1	...	1	...	
DISEASES, CIRCULATORY SYSTEM.						
Pericarditis ...	...	1	1	1	...	
Valvular Disease of Heart ...	2	32	7	34	...	
Phlebitis ...	...	1	...	1	...	
DISEASES, RESPIRATORY SYSTEM.						
Asthma ...	...	13	...	13	1	
Laryngitis ...	...	4	...	4	...	
Bronchitis ...	1	58	3	59	...	
Broncho-Pneumonia ...	...	4	2	4	...	
Phthisis ...	8	71	37	79	4	
Pleurisy ...	...	6	...	6	...	
Empyema ...	1	2	1	3	...	
DISEASES, DIGESTIVE SYSTEM.						
Stomatitis ...	...	5	...	5	1	
Gum-boil ...	...	3	...	3	...	
Salivary-fistula ...	...	1	...	1	...	
Tonsillitis ...	...	2	...	2	...	
Pharyngitis ...	...	3	...	3	...	
Gastritis ...	...	7	...	7	...	
Dyspepsia ...	1	23	...	24	...	
Enteritis ...	...	54	7	54	2	
Appendicitis ...	...	1	...	1	...	
Peri-Typhilitis ...	...	1	...	1	...	
<i>Carried forward ...</i>	63	1,656	245	1,710	49	

*Return of Diseases and Deaths in 1910 at the Province Wellesley
Hospitals.—Continued.*

DISEASES.	Remain- ing in Hospital at end of 1909.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1910.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward...</i>	63	1,656	245	1,719	49	
DISEASES, DIGESTIVE SYSTEM.—Continued.						
Colitis	1	1	1	...	
Sprue	1	...	1	...	
Hernia Inguinal	10	...	10	...	
Intussusception (Chronic)	1	1	1	...	
Intestinal Obstruction	2	2	2	...	
Diarrhœa ...	4	124	52	128	2	
Constipation	6	...	6	...	
Colic (Intestinal) ...	1	25	...	26	1	
Ischio Rectal Abscess	1	...	1	1	
" Fistula	2	...	2	...	
Fascal Fistula	1	...	1	...	
Fistula in Ano	3	...	3	...	
Hæmorrhoids	7	...	7	...	
Prolapsus Ani	2	...	2	...	
Cirrhosis of Liver ...	1	26	11	27	1	
Hepatic Abscess	6	3	6	...	
Peri-Hepatitis	1	...	1	...	
Jaundice ...	1	2	...	3	...	
Colic (Biliary)	1	...	1	...	
Peritonitis	2	1	2	...	
DISEASES, LYMPHATIC SYSTEM.						
Splenitis	1	...	1	...	
Lymphadenitis	12	...	12	1	
Bubo	27	...	27	1	
DISEASES, URINARY SYSTEM.						
Bright's Disease ...	1	45	5	46	...	
Cystitis	5	...	5	...	
Vesical Calculus	1	...	1	...	
Albuminuria	1	...	1	...	
DISEASES, GENERATIVE SYSTEM.						
MALE ORGANS.						
Stricture Urethra	5	...	5	...	
Urethral Fistula ...	1	1	...	2	...	
Impacted Urethral Calculus.	2	...	2	...	
Enlarged Prostate	1	...	1	...	
Phimosis	37	...	37	1	
Paraphimosis	7	...	7	1	
Inflammation Penis	1	...	1	...	
Chancroids ...	2	46	...	48	...	
Abscess Scrotum	1	...	1	...	
Sloughing Scrotum	2	...	2	...	
Varicocele	1	...	1	...	
Hydrocele	4	...	4	...	
Hæmatocele	2	...	2	...	
Orchitis	7	...	7	...	
Epididymitis	3	...	3	...	
Hernia Testis	1	...	1	...	
DISEASES, GENERATIVE SYSTEM.						
FEMALE ORGANS.						
Endometritis	1	...	1	...	
Retroversio Uteri	2	...	2	...	
Prolapsus Uteri	1	...	1	...	
<i>Carried forward ...</i>	74	2,097	321	2,171	58	

*Return of Diseases and Deaths in 1910 at the Province Wellesley
Hospitals.—Continued.*

DISEASES.	Remain- ing in Hospital at end of 1909.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1910.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward ...</i>	74	2,097	321	2,171	58	
DISEASES, GENERA- TIVE SYSTEM.— <i>Contd.</i>						
FEMALE ORGANS.— <i>Contd.</i>						
Condyloma Labii ...	...	1	...	1	...	
Vaginitis ...	...	1	...	1	...	
Amenorrhœa ...	...	1	...	1	1	
Metrorrhagia ...	...	1	...	1	...	
Abortion ...	...	4	...	4	...	
Still-birth ...	...	1	...	1	...	
Parturition ...	...	1	...	1	...	
Pregnancy ...	...	1	...	1	...	
DISEASES, ORGANS OF LOCOMOTION, BONES.						
Periostitis ...	...	3	...	3	...	
Necrosis ...	...	10	...	10	...	
Ankylosis Knee ...	...	2	...	2	...	
Hip-joint Disease ...	...	2	1	2	...	
Synovitis ...	1	7	...	8	...	
Lumbago ...	...	1	...	1	...	
Myalgia ...	...	24	...	24	...	
DISEASES, CONNECTIVE TISSUE.						
Cellulitis ...	...	15	3	15	...	
Abscess ...	2	77	1	79	2	
Gangrene ...	...	1	1	1	...	
Elephantiasis ...	...	1	...	1	...	
DISEASES OF THE SKIN.						
Eczema ...	2	20	...	22	...	
Carbuncle ...	...	2	1	2	...	
Psoriasis ...	...	3	...	3	...	
Impetigo ...	...	3	...	3	...	
Ulcer ...	17	276	...	293	5	
Ulcerating Granuloma ...	...	1	...	1	1	
Onychia ...	...	2	...	2	...	
GENERAL INJURIES.						
Burns ...	2	7	...	9	1	
Shock ...	...	1	1	1	...	
Multiple Injuries ...	...	4	...	4	...	
LOCAL INJURIES.						
Contusions ...	...	33	...	33	...	
INJURIES OF ANATOMI- CAL REGIONS.						
Head and Neck ...	1	50	1	51	2	
Trunk and Abdomen ...	1	14	...	15	...	
UPPER EXTREMITIES.						
Wounds ...	...	36	...	36	1	
LOWER EXTREMITIES.						
Wounds ...	1	40	1	41	1	
<i>Carried forward ...</i>	101	2,743	331	2,844	72	

*Return of Diseases and Deaths in 1910 at the Province Wellesley
Hospitals.—Concluded.*

DISEASES.	Remain- ing in Hospital at end of 1909.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1910.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward ...</i>	101	2,743	33 ¹	2,844	72	
FRACTURES.						
Fracture Skull ...	...	3	...	3	...	
Fracture & dislocation Spine ...	...	1	1	1	...	
" Rib ...	...	1	...	1	...	
Fracture upper extremities ...	1	18	...	19	...	
Fracture lower extremities ...	...	11	..	11	2	
POISONED WOUNDS.						
Centipede-bite ...	...	1	...	1	...	
Snake-bite ...	...	2	...	2	...	
Alligator-bite ...	...	4	...	4	...	
Dog-bite ...	...	4	...	4	..	
Buffalo-gore ...	...	4	1	4	...	
POISONS.						
Ptomaine Poisoning ...	...	1	...	1	...	
Belladonna ...	...	1	...	1	...	
Narcotic ...	...	2	...	2	...	
PARASITES.						
Anchylostomiasis ...	14	96	22	110	13	
Round-worms ...	...	3	...	3	...	
Guinea-worm ...	...	1	...	1	...	
Ringworm ...	...	4	...	4	...	
Scabies ...	...	21	...	21	1	
Observation for Insanity ...	1	16	...	17	...	
Observation ^{B B F A} ₁ ^{B B E A} ...	...	64	...	64	2	
No Appreciable Diseases ...	...	43	...	43	...	
Vaccinia ...	...	2	...	2	...	
Total ...	117	3,046	355	3,163	90	

MALACCA.

Return of the Statistics of Population for the Year 1910.

—				Europeans.	Eurasians.	Malays.	Chinese.	Tamils.	Other Nationalities.	TOTAL.
Number of inhabitants in 1909	...			55	1,496	75,241	20,617	1,039	78	98,526
„ Births during the year 1910				4	67	3,588	658	69	69	4,455
„ Deaths „ „ 1910				2	54	3,337	1,352	273	170	5,188
„ Immigrants „ „ 1910				} No data available.						
„ Emigrants „ „ 1910										
Number of Inhabitants in 1910	...			54	1,485	75,520	20,761	1,010	77	98,907
Increase ... ..	...	...	...	...	...	279	144	...	...	423
Decrease ... ..	...	...	...	1	11	...	...	29	1	42

Meteorological Return for the Year 1910.

—				TEMPERATURE.						RAINFALL.		WINDS.		REMARKS.
				Solar Maximum.	Minimum on Grass.	Shade Maximum.	Shade Minimum.			Amount in Inches.	Degree of Humidity.	General Direction.	Average Force.	
				°F	°F	°F	°F	°F	°F	Ins.	%			
January	...	...	...	144·8	66·6	90·0	71·8	18·2	81·4	2·59	96·0	...	...
February	...	...	...	142·0	68·0	89·5	71·8	17·7	81·9	8·53	96·0	...	...
March	...	...	...	150·0	67·4	89·8	71·9	17·9	81·3	7·09	95·0	...	...
April	...	...	...	146·5	67·6	89·6	72·2	17·4	82·5	8·51	96·0	...	...
May	...	...	...	151·2	56·4	86·2	71·3	14·9	83·2	4·59	94·0	...	...
June	...	...	...	151·4	63·3	86·2	72·3	13·9	82·6	1·28	89·0	...	...
July	...	...	...	155·2	54·7	87·0	74·7	12·3	82·2	12·51	84·0	...	...
August	...	...	...	148·4	52·9	86·4	75·3	11·1	81·4	15·82	86·0	...	...
September	...	...	...	153·3	57·9	87·4	72·1	15·3	81·7	3·68	84·0	...	...
October	...	...	...	154·8	59·5	87·6	71·6	16·0	81·4	11·30	88·0	...	...
November	...	...	...	156·2	61·6	86·9	71·5	15·4	81·6	4·65	86·0	...	...
December	...	...	...	148·7	59·3	86·2	71·4	14·8	80·4	9·38	89·0	...	...
Year	...	...	...	150·2	61·2	87·7	72·3	15·4	81·8	Total 89·93	90·0	...	...

MALACCA.

Return of Diseases and Deaths in 1910, at the following Institutions:—General, Pauper, Contagious Disease, Leper, Prison, Alor Gajah and Jasin Hospitals.

DISEASES.	Remain- ing in Hospital at end of 1909.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1910.	REMARKS.
		Admis- sions.	Deaths.			
INFECTIVE DISEASES.						
Beri-beri	...	50	506	43	556	92
Chicken-pox	7	...	7	2
Dysentery	...	7	159	59	166	13
Erysipelas	3	...	3	...
Gangrene	4	4	4	...
Gonorrhœa	...	1	78	...	79	1
" Arthritis	6	...	6	...
" Ophthalmia	5	...	5	1
Leprosy	15	2	15	1
Malaria	...	4	288	5	292	8
" Benign Tertiar	...	7	128	...	135	...
" Quartan	8	1	8	1
" Malig. Tertiar	627	61	627	39
" Chronic	...	2	65	4	67	...
Measles	7	...	7	...
Mumps	5	...	5	...
Osteo Myelitis	...	1	...	1	1	...
Phagedæna	...	2	11	5	13	...
Pneumonia	...	1	65	30	66	2
Pyæmia	1	1	1	...
Pyrexia	...	8	72	...	80	...
Rheumatism	...	2	30	...	32	2
Septicæmia	4	3	4	...
Small-pox	91	18	91	14
Syphilis	...	12	181	6	193	16
Tuberculosis	7	2	7	2
Yaws	3	...	3	...
INTOXICATION.						
Alcoholism	1	...	1	...
GENERAL DISEASES NOT INCLUDED IN THE TWO PRECEDING GROUPS.						
Anæmia	...	2	163	7	165	7
" Pernicious	3	2	3	...
Lymphadenoma	1	...	1	...
CERTAIN MORBID CONDITIONS INCIDENT TO VARIOUS PARTS.						
New growth, Non-malignant	9	...	9	1
" Malignant	10	5	10	2
Cyst	2	...	2	...
DISEASES OF THE NERVOUS SYSTEM.						
Neuritis	...	1	35	...	36	3
Myelitis	2	2	2	...
Meningitis	4	4	4	...
Hæmorrhage Cerebral	1	...	1	1
Paralysis	...	1	...	...	1	...
Hemiplegia	5	1	5	2
Monoplegia	1	...	1	...
Convulsion	1	1	1	...
Epilepsy	2	...	2	2
Carried forward...	101	2,616	267	2,717	212	

Return of Diseases and Deaths in 1910 at the Malacca Hospitals.—Continued.

DISEASES.	Remain- ing in Hospital at end of 1909.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1910.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward ...</i>	101	2,616	267	2,717	212	
DISEASES OF THE NERVOUS SYSTEM.— <i>Continued.</i>						
Headache ...	...	2	...	2	...	
Hiccough ...	...	1	...	1	...	
Neurasthenia ...	...	4	1	4	...	
Mania ...	...	6	...	6	...	
Melancholia ...	1	2	...	3	...	
DISEASES OF THE EYE.						
Conjunctivitis ...	1	18	...	19	...	
Ophthalmia Granular ...	...	3	...	3	...	
Keratitis ...	...	1	...	1	...	
Ulcer Cornea ...	...	16	...	16	...	
Opacity Cornea ...	...	8	...	8	4	
Staphyloma ...	1	3	...	4	2	
Iritis ...	...	5	...	5	...	
Glaucoma ...	1	1	...	2	...	
Hypopyon ...	...	1	...	1	1	
Cataract ...	2	5	...	7	...	
Panophthalmitis ...	...	1	...	1	...	
Shrunken Eyeball ...	...	2	...	2	1	
Dacryo Cystitis ...	...	1	...	1	...	
Blepharitis ...	...	1	...	1	...	
Sty ...	...	1	...	1	...	
Simpleblepharon ...	...	1	...	1	...	
Ptosis ...	...	1	...	1	...	
Disorganized Eyeball ...	1	1	...	2	...	
Blind ...	...	7	...	7	...	
DISEASES OF THE EAR.						
Earache ...	...	1	...	1	...	
DISEASES OF THE NOSE.						
Rhinitis ...	...	1	...	1	...	
DISEASES OF THE CIRCULATORY SYSTEM.						
V. D. C. Mitral ...	2	20	4	22	...	
Arterial Sclerosis ...	...	1	...	1	...	
Dilatation ...	...	2	...	2	...	
Aneurysm Popliteal ...	...	1	...	1	...	
DISEASES OF THE RESPIRATORY SYSTEM.						
Asthma ...	1	19	...	20	...	
Bronchitis ...	6	68	...	74	1	
Broncho-Pneumonia ...	...	4	2	4	...	
Phthisis ...	1	132	76	133	7	
" Fibroid ...	...	1	...	1	...	
Emphysema ...	...	1	...	1	...	
Pleurisy ...	...	7	...	7	1	
Empyema ...	...	2	2	2	...	
DISEASES OF THE DIGESTIVE SYSTEM.						
Stomatitis ...	...	1	...	1	...	
Nicrosis Jaw ...	...	5	...	5	...	
Dental Caries ...	...	1	...	1	...	
Pharyngitis ...	...	12	...	12	...	
Gastritis ...	...	14	...	14	...	
Dyspepsia ...	...	18	...	18	...	
<i>Carried forward ...</i>	118	3,019	352	3,137	229	

Return of Diseases and Deaths in 1910 at the Malacca Hospitals.—Continued.

DISEASES.	Remain- ing in Hospital at end of 1909.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1910.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward...</i>	118	3,019	352	3,137	229	
DISEASES OF THE DIGESTIVE SYSTEM.— <i>Continued.</i>						
Gastralgia ...	...	2	...	2	...	
Enteritis ...	1	55	15	56	1	
Gastro Enteritis ...	...	3	1	3	...	
Colitis ...	...	2	1	2	...	
Entero Colitis ...	...	2	...	2	...	
Fæcal Fistula ...	...	1	1	1	...	
Sprue ...	...	1	...	1	1	
Hernia ...	...	4	...	4	...	
Diarrhœa ...	...	89	20	89	5	
Constipation ...	...	6	...	6	...	
Colic ...	...	2	...	2	...	
Ischio Rectal Abscess ...	...	1	...	1	...	
Fistula in Ano ...	...	3	...	3	...	
Hæmorrhoids ...	...	9	...	9	1	
Prolapse Anus ...	...	2	...	2	...	
Cirrhosis Liver ...	2	29	17	31	2	
Perihepatitis ...	...	1	...	1	...	
Congestion Liver ...	...	1	...	1	...	
Jaundice ...	...	9	1	9	1	
Peritonitis ...	...	5	4	5	...	
DISEASES OF THE LYMPHATIC SYSTEM.						
Splenitis ...	...	2	...	2	1	
Bubo ...	1	39	...	40	2	
DISEASES OF THE URINARY SYSTEM.						
Nephritis ...	3	14	3	17	1	
Bright's Disease ...	6	40	7	46	6	
Cystitis ...	...	2	...	2	...	
Atony Bladder ...	...	1	...	1	...	
Calculus ...	...	1	...	1	...	
Albuminuria ...	...	1	1	1	...	
DISEASES OF THE ORGANS OF GENERATION.						
Stricture Urethra ...	...	1	...	1	...	
Extravasation Urine ...	...	1	...	1	...	
Phimosis ...	1	5	...	6	...	
Paraphimosis ...	...	2	...	2	...	
Ulcer Penis ...	3	3	...	6	...	
Soft Chancre ...	...	14	...	14	...	
Abscess Scrotum ...	2	3	...	5	...	
Ulcer Scrotum ...	...	1	...	1	...	
Hydrocele ...	...	5	...	5	...	
Orchitis ...	1	14	...	15	...	
Hernia Testis ...	...	1	...	1	...	
Ulcer Vagina ...	...	3	...	3	...	
Prolapse Uteri ...	...	1	...	1	...	
Soft Chancre ...	...	7	...	7	...	
Dysmenorrhœa ...	...	1	...	1	...	
Menorrhagia ...	...	1	...	1	...	
AFFECTIONS CONNECTED WITH PREGNANCY.						
Abortion ...	...	1	...	1	...	
<i>Carried forward ...</i>	138	3,410	423	3,548	251	

Return of Diseases and Deaths in 1910 at the Malacca Hospitals.—Continued.

DISEASES.	Remain- ing in Hospital at end of 1909.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1910.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward ...</i>	138	3,410	423	3,548	251	
AFFECTIONS CONNECTED WITH PARTURITION.						
Labour ...	...	2	...	2	...	
Premature Birth ...	...	2	2	2	...	
DISEASES OF THE ORGANS OF LOCO- MOTION.						
Necrosis ...	...	2	1	2	...	
Arthritis ...	...	11	...	11	4	
Synovitis ...	...	7	...	7	1	
Ankylosis Fibrous ...	...	1	...	1	..	
Caries Spine ...	...	2	...	2	...	
Myalgia ...	1	14	...	15	...	
Teno Synovitis ...	...	1	...	1	...	
Bursitis ...	...	1	...	1	...	
DISEASES OF THE CONNECTIVE TISSUE.						
Cellulitis ...	1	26	5	27	2	
Abscess ...	2	43	1	45	...	
DISEASES OF THE SKIN.						
Eczema ...	2	35	...	37	1	
Boil ...	...	2	...	2	...	
Carbuncle ...	...	1	...	1	...	
Herpes ...	...	1	...	1	...	
Lichen Planus ...	...	1	...	1	...	
Ichthyosis ...	...	2	...	2	...	
Ulcer ...	62	539	...	601	49	
DISEASES OF THE NAIL.						
Onychia ...	...	3	...	3	2	
PARASITES.						
Ascaris Lumbricoides ...	1	2	...	3	...	
Guinea Worm ...	...	1	...	1	1	
Ankylostomiasis ...	2	60	15	62	12	
Ringworm ...	...	16	...	16	...	
Scabies ...	2	86	...	88	3	
INJURIES, GENERAL AND LOCAL.						
Burn ...	...	7	...	7	...	
Scald ...	1	4	...	5	1	
Starvation ...	...	1	...	1	...	
Shock following Injury ...	...	1	1	1	...	
Abrasion ...	...	4	...	4	1	
Contusion ...	...	25	...	25	...	
Wounds ...	...	97	1	97	1	
Sprain ...	...	3	...	3	...	
Rupture Perineum ...	...	1	...	1	...	
<i>Carried forward ...</i>	212	4,414	449	4,626	329	

Return of Diseases and Deaths in 1910 at Malacca Hospitals.—Concluded.

DISEASES.	Remain- ing in Hospital at end of 1909.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1910.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward ...</i>	212	4,414	449	4,626	329	
INJURIES, LOCAL AND GENERAL. <i>—Continued.</i>						
Fracture Simple Upper Ext.	...	4	...	4	...	
" Lower Ext.	...	4	...	4	2	
Fracture Compd. Skull ...	...	1	...	1	...	
" Lower Ext.	2	...	...	2	...	
Concussion	...	2	...	2	...	
Dislocation	...	2	...	2	...	
Perforation Eyeball	...	1	...	1	...	
Foreign body in Ear	...	1	...	1	1	
SURGICAL OPERA- TIONS.						
Operation Stone in bladder...	1	...	...	1	...	
Removal Piles	...	1	...	1	...	
Amputation Leg	1	1	...	2	...	
Observation	...	187	...	187	9	
Total ...	216	4,618	449	4,834	341	

